FORMAT	FILE NAME	REVISIONS:
FX2B	PRO-1167-ASSEMBLY-B	A: / SHOW RECESS IN SLEEVE BEARING & EXTENDED SHAFT.

SECRET
CONFIDENTIAL

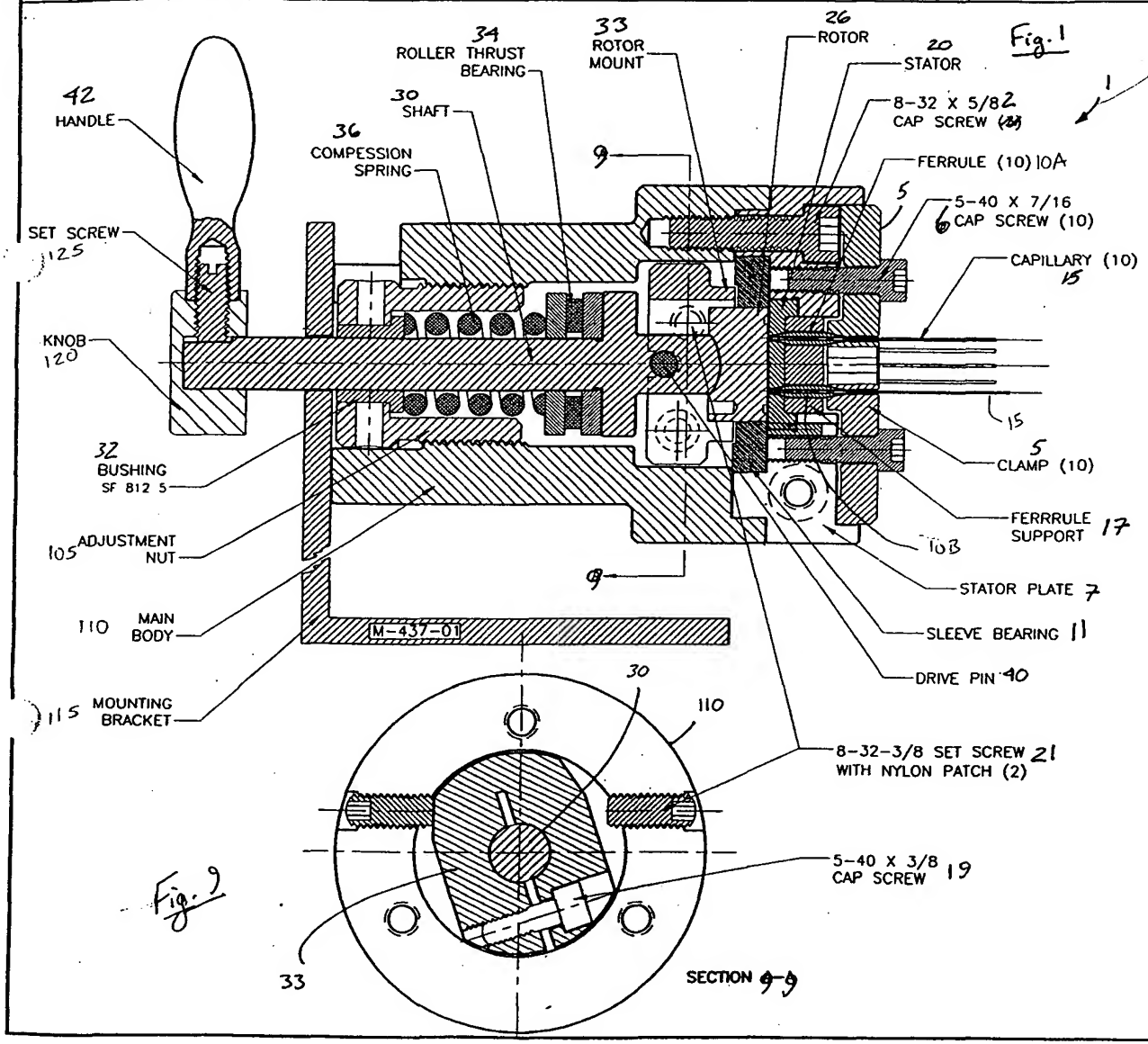


Fig. 1

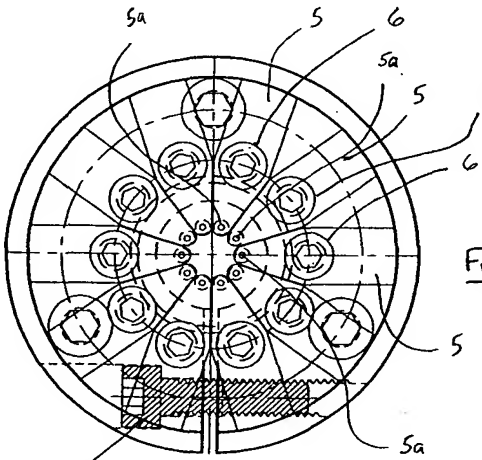


Fig. 2

Fig. 3

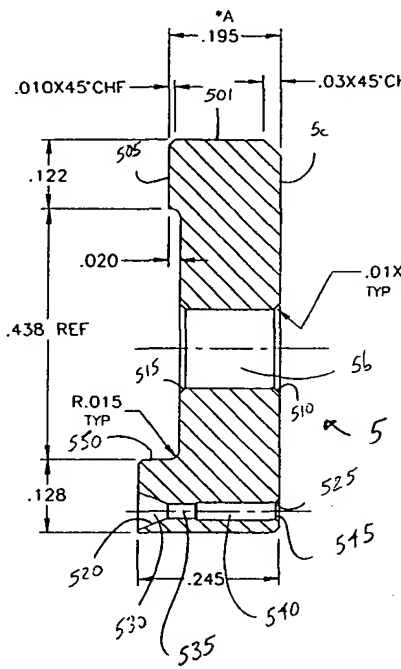
RELATED PARTS:

© THIS DRAWING IS THE PROPERTY OF UPCHURCH SCIENTIFIC, INC. CONTENTS ARE STRICTLY CONFIDENTIAL			TOLERANCES: XXXX = ±.0005, XXX = ±.005, XX = ±.010	FRACTIONAL = ±.020, ANGULAR = ±2 DEC. UNLESS OTHERWISE SPECIFIED DO NOT SCALE THIS DRAWING
			MATERIAL: ASSEMBLY	SCALE: 2:1
			TITLE: 10 PORT MICRO INJECTION VALVE	
HS	A	04-12-01	UPCHURCH SCIENTIFIC, INC.	PART NUMBER: PRO-1167-ASSEMBLY-B
DRAWN HS	REV. PR-119	DATE: 02-07-01		

FORMAT	FILE NAME	REVISIONS:
FX5B	PRO-1167-CLAMP	C: / ADDED ø.023/.022 D: / ADDED GEOMETRIC TOLERANCES. E: / ADJUSTED HOLE SIZE FOR HARD ANODIZING.

SECRET
CONFIDENTIAL

Fig. 3B



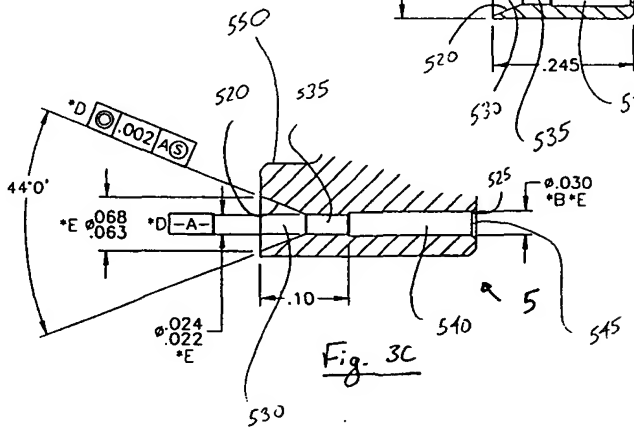
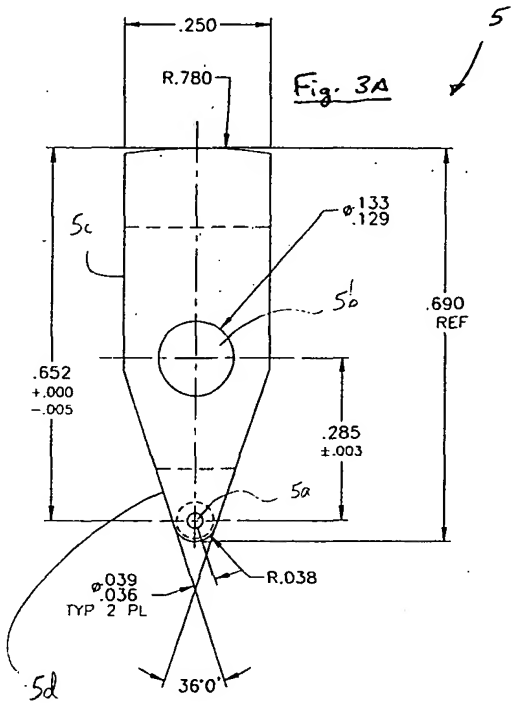


Fig. 3C

Fig. 3A



NOTES, UNLESS OTHERWISE SPECIFIED:

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .004 T.I.R MAX.

NOTES, SURFACE TREATMENT:

HARD ANODIZE, BLACK.
MIL - 8625F, TYPE III, CLASS 1. .002

TOLERANCES
XXXX = ±.0005
XXX = ±.005
XX = ±.010
FRACTIONAL = ±.020
ANGULAR = ±2 DEG.
UNLESS OTHERWISE SPECIFIED
DO NOT SCALE THIS DRAWING

HS	E	03-28-01
HS	D	03-27-01
HS	C	02-27-01
HS	B	02-07-01
HS	A	01-16-01

DRAWN: HS | REV.: PRO-1167 | DATE: 12-12-00

MATERIAL: 2024 T-4

SCALE: 5:1

TITLE: CLAMP. (10 PORT SELECTION VALVE)

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167-CLAMP

FORMAT	FILE NAME:	REVISIONS:
FX5BM	PRO-1167-10PT-STA-1	*A: / THICKNESS 3.50mm WAS 5.00 B: / TOLERANCES & DIMENSIONS MARKED B* CHANGED OR ADDED. ø0.70 TUBE POCKET WAS 0.38 C: / 0.050 POS. TOL. WAS 0.025

SECRET
CONFIDENTIAL

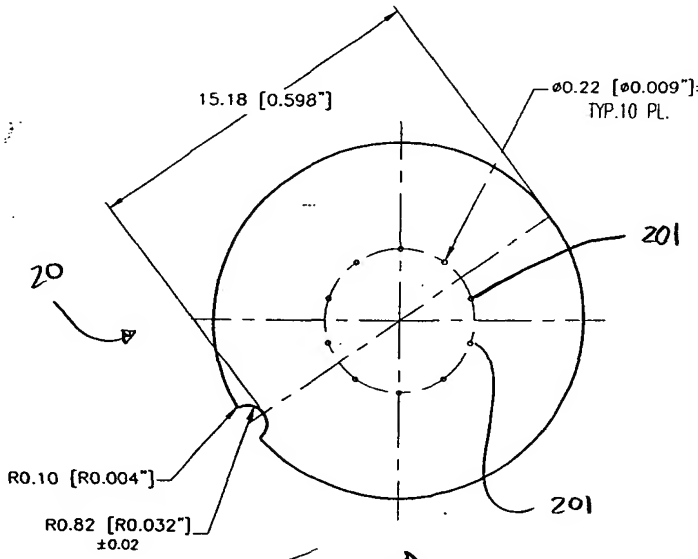


Fig. 4D

Fig. 4B

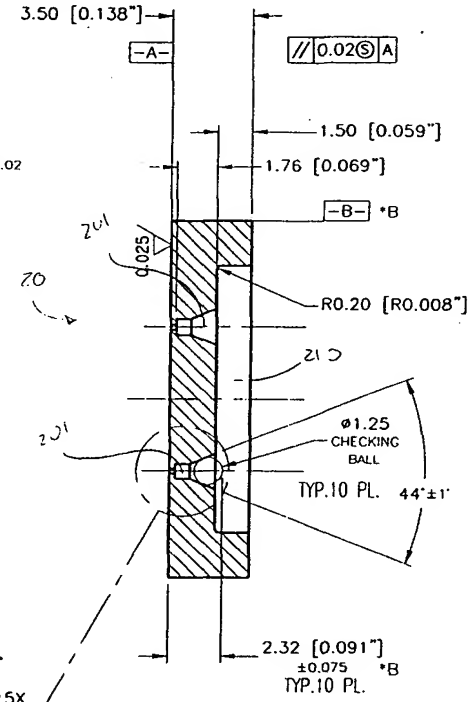


Fig. 4C

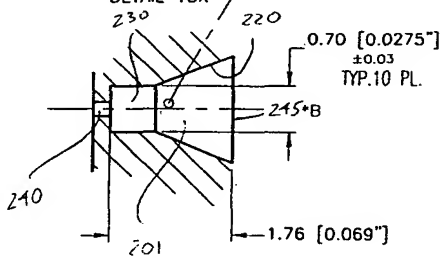
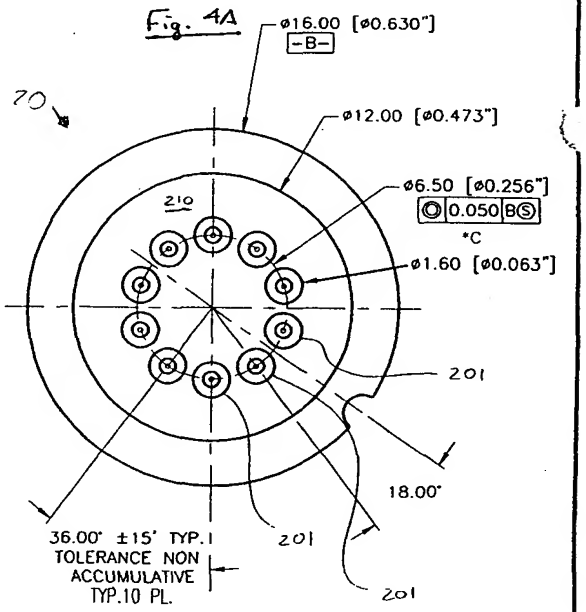


Fig. 4A



RELATED PARTS:

METRIC DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED: 0.030mm

MATERIAL: ZIRCONIA

SCALE: (METRIC) 5:1

TITLE: 10 PORT STATOR. (MICRO INJECTION VALVE)

X	X	X
HS	C	01-23-01
HS	B	01-16-01
HS	A	12-19-00

DRAWN HS | REV. PRO-1167 | DATE: 12-05-00

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167-10PT-STA-1

REVISIONS			
REV.	DESCRIPTION	DATE	INITIALS
X	X	XX-XX-XX	XX
X	X	XX-XX-XX	XX
X	X	XX-XX-XX	XX

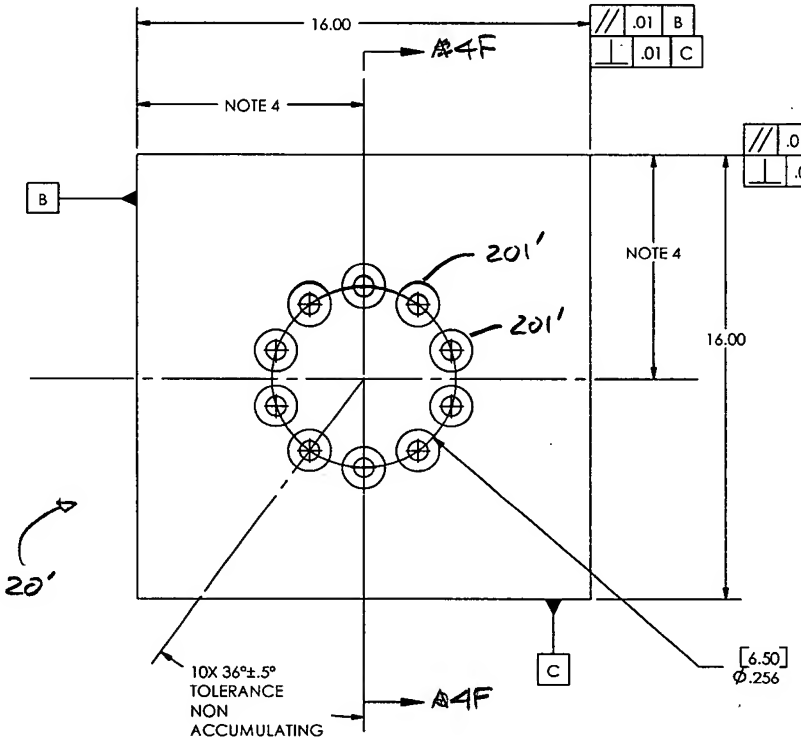


Fig. 4E

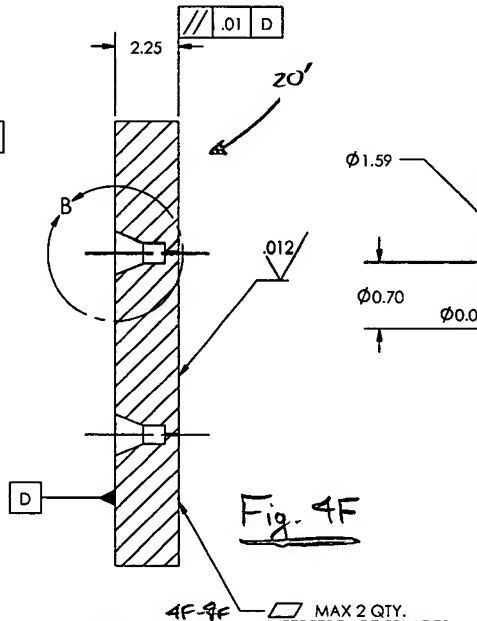


Fig. 4F

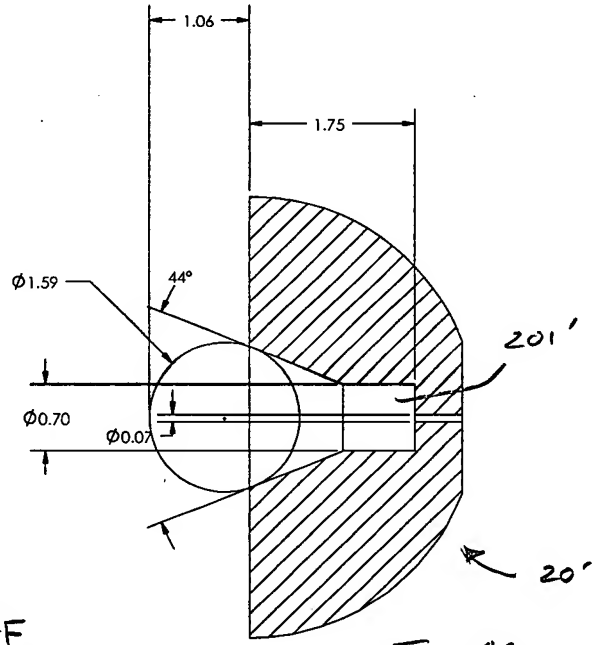


Fig. 4G

DETAIL B
SCALE 20 : 1

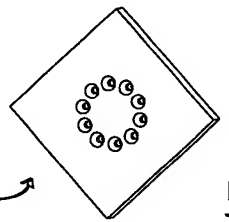


Fig. 4H

NOTES, UNLESS OTHERWISE SPECIFIED:

1. SURFACE FINISH: 0.40 [16 RMS]
2. EDGE BREAK: .020 [.008"] MAX
3. CONCENTRICITY OF ALL DIAMETERS: .05 [.002"] T.I.R. MAX
4. PORT PATTERN TO BE CENTERED WITHIN SQUARE ±.035 [.0014"]

INJECTION MOLDED PART, USE MOLD #XXX

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE: DECIMALS X.XX = ± 0.05, X.X = ± 0.1, X = ± 0.5; ANGLES ± 2°	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		UPCHURCH SCIENTIFIC, INC.
	APPROVALS	DATE	
	DRAWN THD	06-10-02	QUARTS STATOR, INPUT/OUTPUT
	CHECKED		
MATERIAL: QUARTZ/SILICON LAMINATE	RESP ENG		
FINISH: —	MFG ENG XX	XX-XX-XX	SIZE B, DWG. NO. PRO-1167-Q-STATOR, REV. --
DO NOT SCALE DRAWING	QUAL ENG		SCALE 6:1, CAD FILE: PRO-1167-Q-STATOR

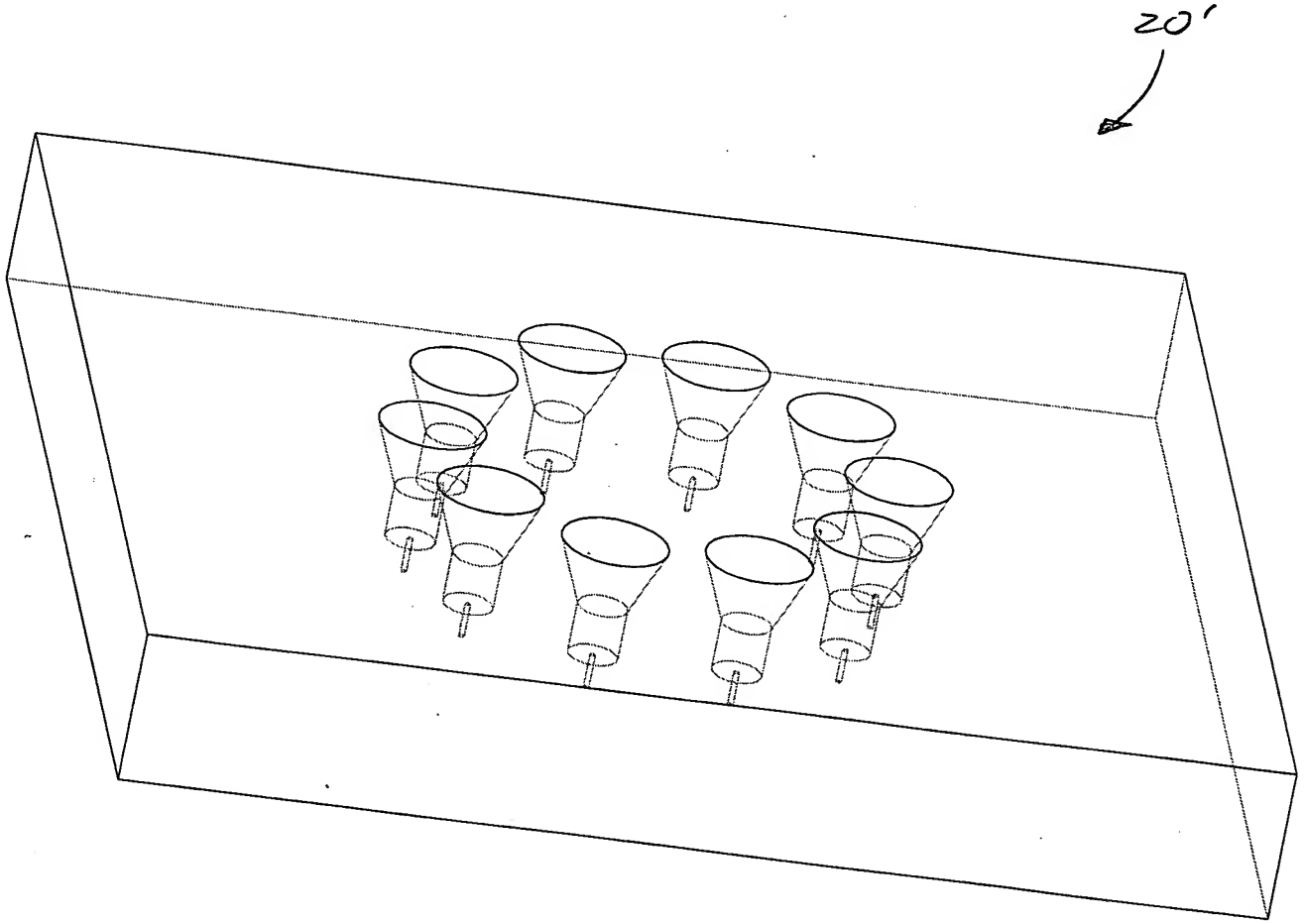
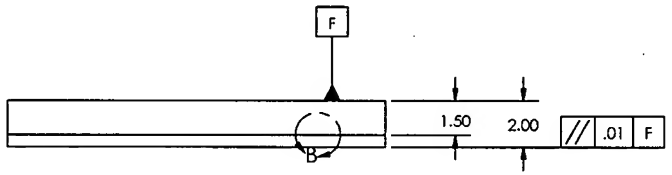
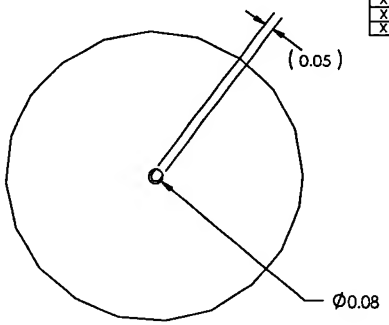


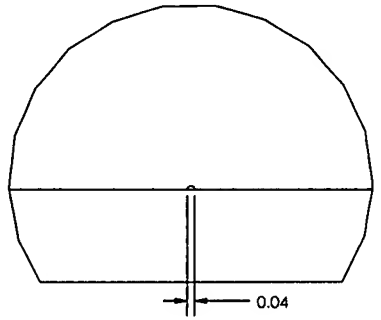
Fig. 4I

REVISIONS			
REV.	DESCRIPTION	DATE	INITIALS
X	X	XX-XX-XX	XX
X	X	XX-XX-XX	XX
X	X	XX-XX-XX	XX





DETAIL C
SCALE 40 : 1



DETAIL B
SCALE 40 : 1

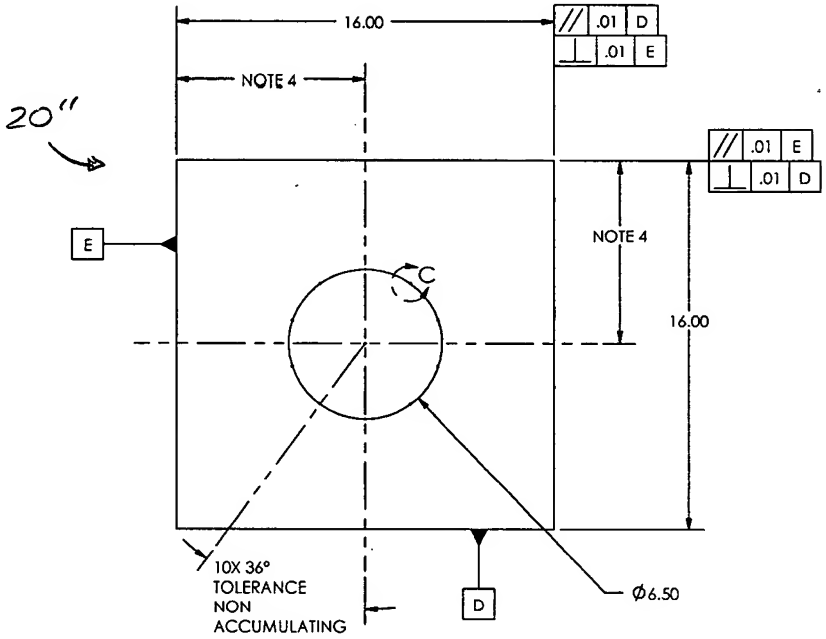


Fig. 4J

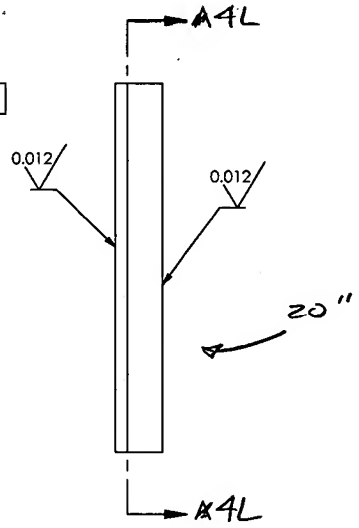
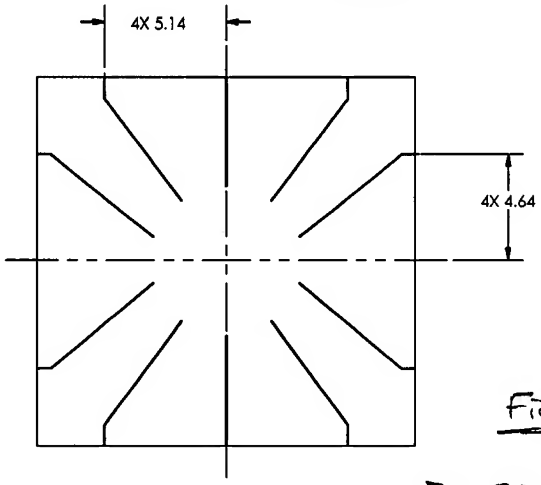


Fig. 4K



SECTION A-A

20"

Fig. 4L

NOTES, UNLESS OTHERWISE SPECIFIED:

1. SURFACE FINISH: 0.40 [16 RMS]
2. EDGE BREAK: .020 [.008"] MAX
3. CONCENTRICITY OF ALL DIAMETERS: .05 [.002"] T.I.R. MAX
4. PORT/GROOVE PATTERN TO BE CENTERED WITHIN SQUARE ±.035 [.0014"]

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE: DECIMALS X.XX = ± 0.05, XX = ± 0.1, X = ± 0.5; ANGLES ± 2°	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		UPCHURCH SCIENTIFIC, INC.
	APPROVALS	DATE	
	DRAWN THD	06-11-02	SIDEPORT STATOR, INPUT/OUTPUT
MATERIAL QUARTZ, SILICON	CHECKED		
FINISH –	RESP ENG		
DO NOT SCALE DRAWING	MFG ENG XX	XX-XX-XX	SIZE B DWG. NO. PRO-1167-Q-SIDEPORT REV. --
	QUAL ENG		SCALE 5:1 CAD FILE: PRO-1167-Q-SIDEPORT SHEET 1 OF 1

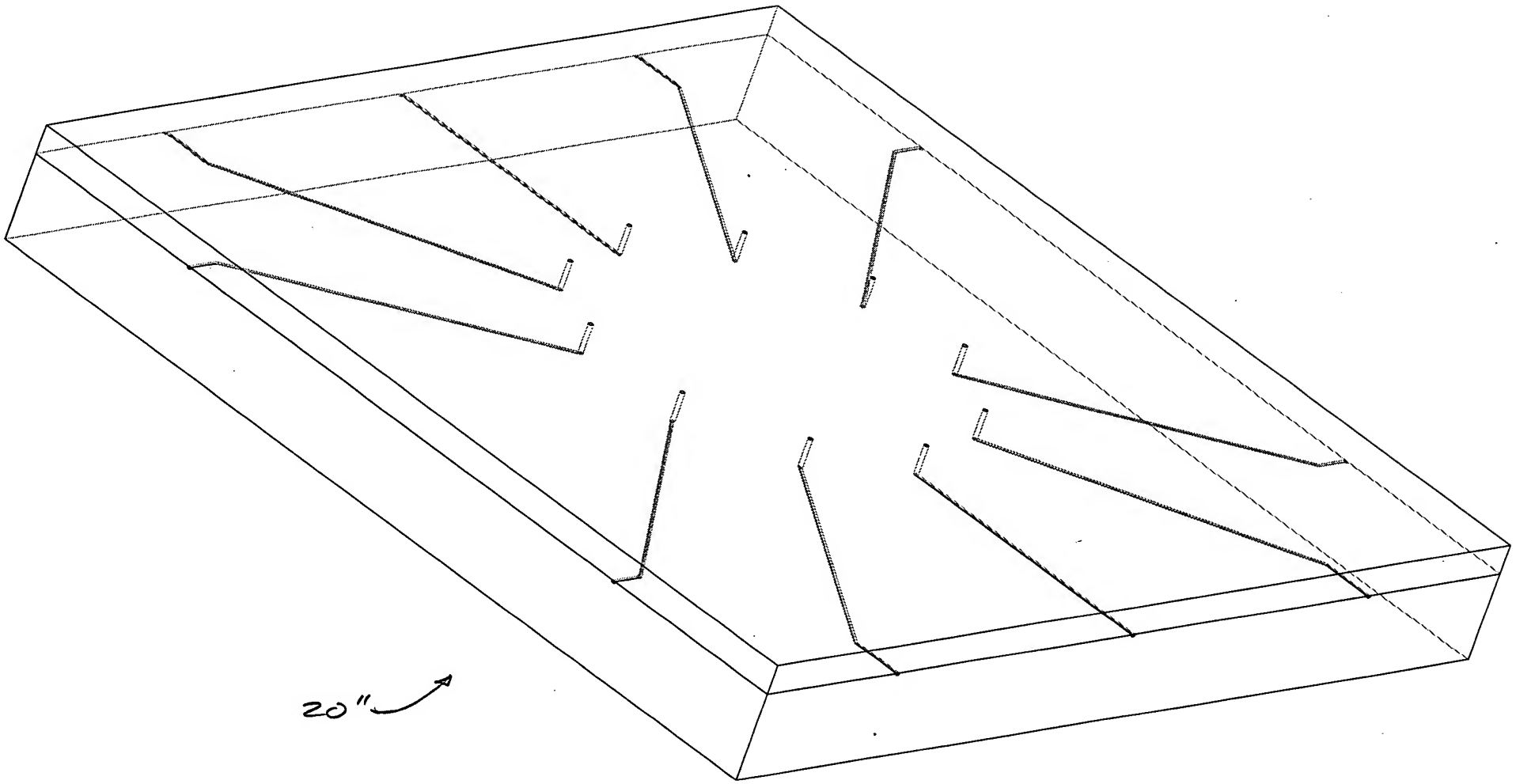


Fig. 4M

PRO-1167-Q-SIDEPORT.SLDASM

FORMAT	FILE NAME:	REVISIONS:
FX5BM	PRO-1167-10PT-ROT	*A: / MOVED LOCATOR HOLE 180°. B: / ADDED NOTE TO GROOVE DIMENSIONS. C: / MATCHED DIMENSIONS WITH MARET DWG.

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CONFIDENTIAL

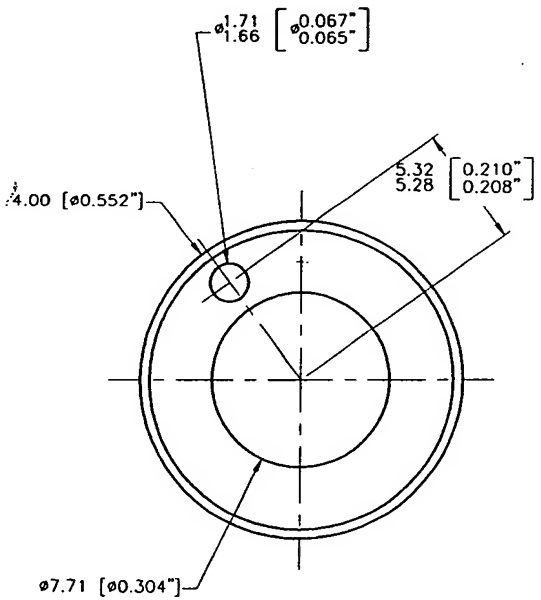
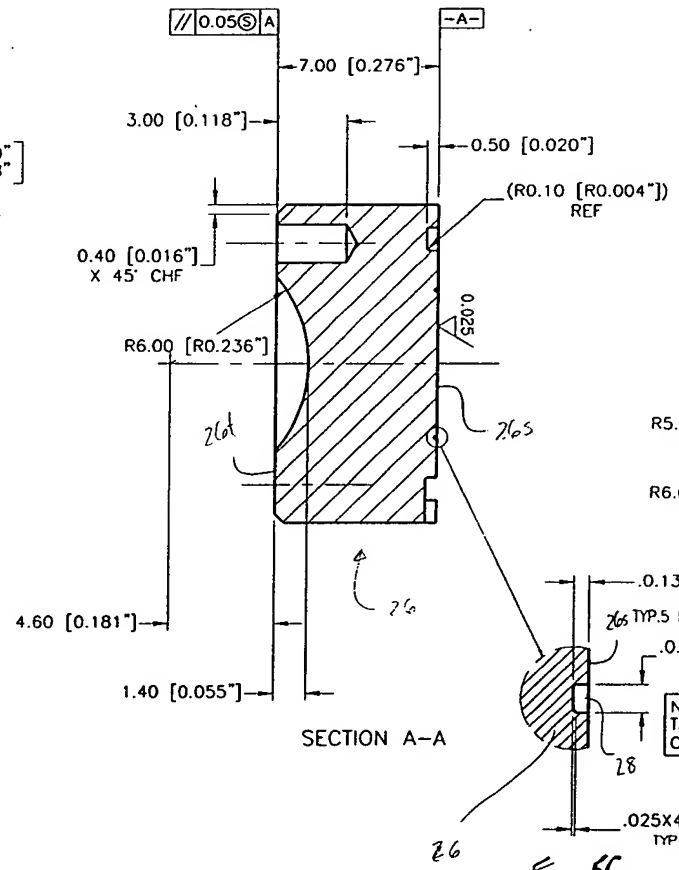


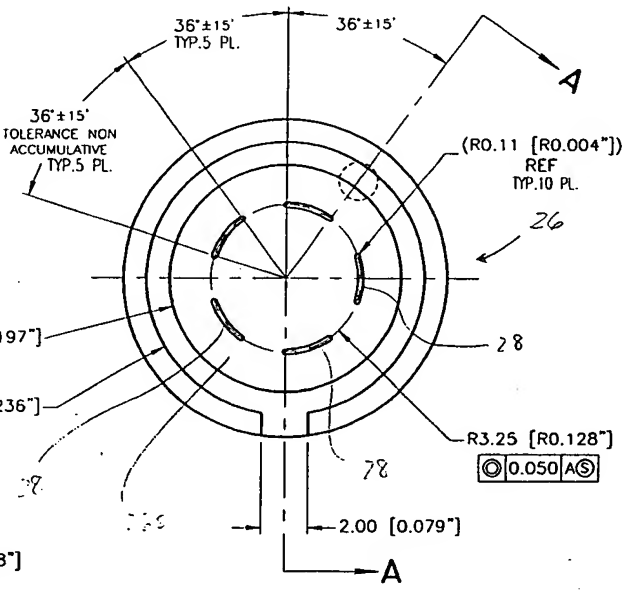
Fig. 5B



SECTION A-A

Fig. 5C

Fig. 5A



NOTE: MAKE GROOVE PROFILE THE SAME AS OUR CURRENT SIX PORT VERSION.

RELATED PARTS:

METRIC DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED: 0.050mm

MATERIAL: ZIRCONIA

SCALE: (METRIC) 5:1

TITLE: 10 PORT ROTOR. (MICRO INJECTION VALVE)

DRAWN	REV.	DATE:
HS	C	02-09-01
HS	B	01-16-01
HS	A	12-13-00
HS	PRO-1167	12-05-00

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167-10PT-ROT

FORMAT	FILE NAME	REVISIONS:
FX2B	PRO-1167-STATOR-PLATE-ML-2	C: / MOVED HOLE LOCATION FOR 8-32 PINCH SCREW HOLE & ADDED C'BORE TOLERANCE.SHORTENED SLOT DEPTH TO ONE WALL ONLY. D: / ADDED C'BORE DIA TO 5-40 HOLES.

SECRET
CONFIDENTIAL

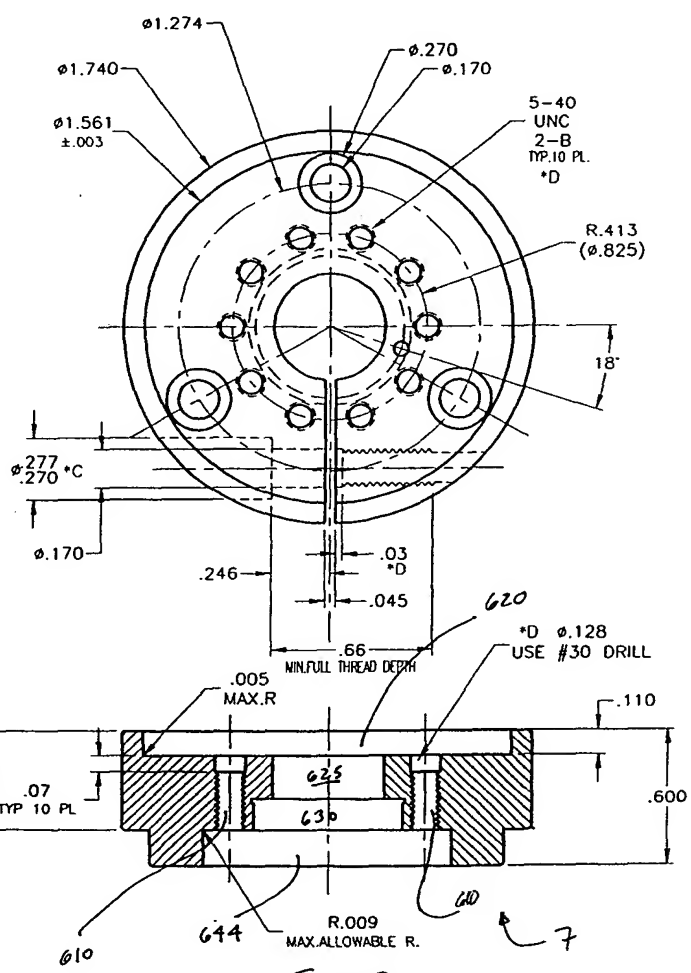


Fig. 6B

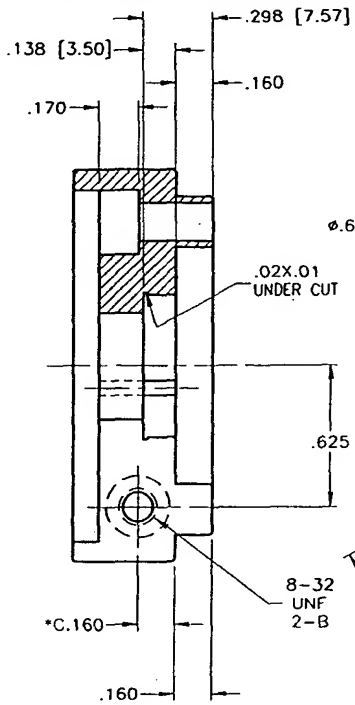
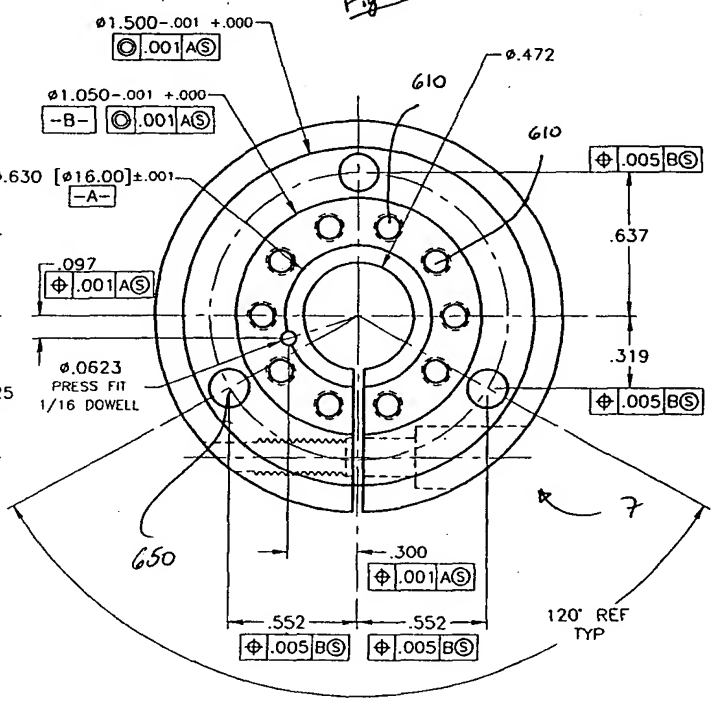


Fig. 6A



RELATED PARTS:

NOTES, UNLESS OTHERWISE SPECIFIED

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .006 T.I.R MAX.

TOLERANCES: XXXX = ±.0005, XXX = ±.005, XX = ±.010 — FRACTIONAL = ±.020, ANGULAR = ±2 DEG. UNLESS OTHERWISE SPECIFIED, DO NOT SCALE THIS DRAWING

MATERIAL: TYPE 316 S.ST.

SCALE: 2:1

HS	D	05-01-01
HS	C	04-04-01
HS	B	03-28-01
HS	A	03-23-01
DRAWN HS	REV. PRO-1167	DATE: 02-06-01

TITLE: STATOR PLATE (10 PORT INJECTION VALVE) (MICRALYNE VERSION)

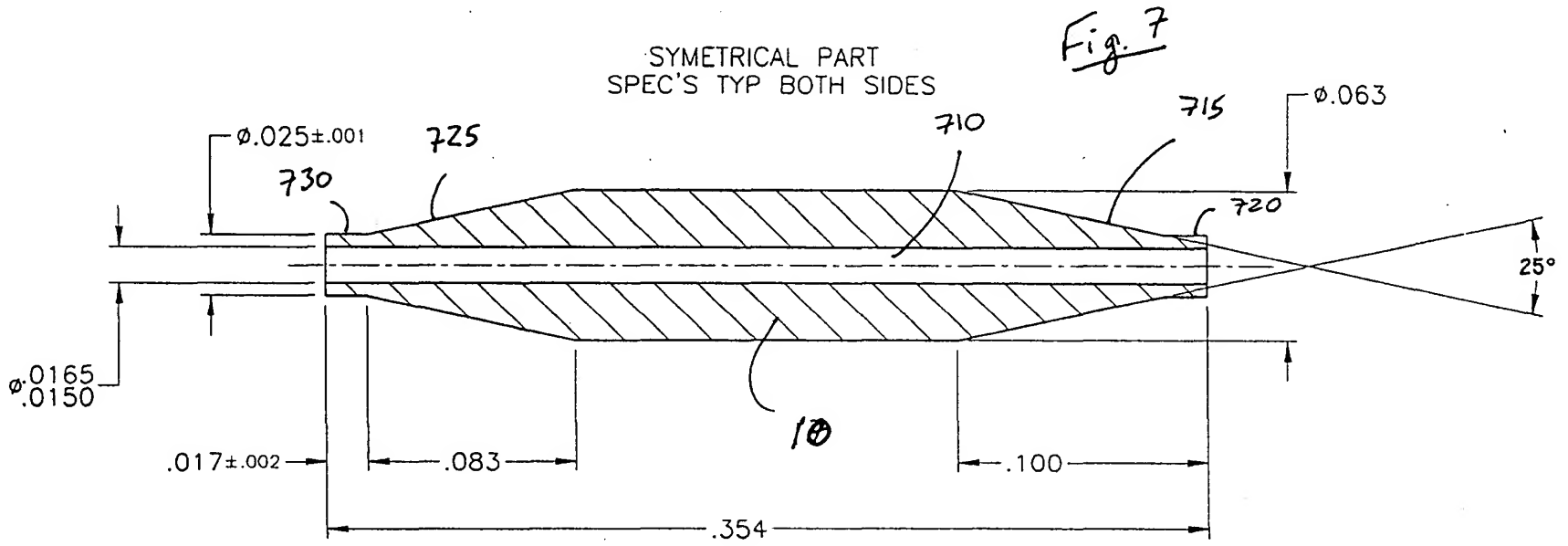
UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167 STATOR-PLATE-ML SHEET 1 OF 2

FORMAT	FILE NAME	REVISIONS:
FX15A	PRO-1167-FERRULE-B	A: / MADE PART SYMETRICAL. B: / INCREASED I.D. TOLERANCE, ADDED NOTES.

SECRET
CONFIDENTIAL

Fig. 7



RELATED PARTS:

NOTES, UNLESS OTHERWISE SPECIFIED

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .003 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .003 T.I.R MAX.

TOLERANCES
XXXX = ±.0005
XXX = ±.005
XX = ±.010
FRACTIONAL = ±.020
ANGULAR = ±2 DEG.
UNLESS OTHERWISE SPECIFIED
DO NOT SCALE THIS DRAWING

MATERIAL: ø1/16 PEEK TUBING

SCALE: 15:1

TITLE: FERRULE (10 PORT VALVE)

DRAWN	REV.	DATE:
HS	B	05-01-01
HS	A	02-07-01
HS	PRO-1167	01-17-01

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167-FERRULE-B

FORMAT	FILE NAME	REVISIONS:
FX5A	PRO-1167-FERR-SUPPORT	A: / PEEK MATERIAL WAS ANODIZED ALUMINUM.

SECRET
CONFIDENTIAL

Fig. 8B

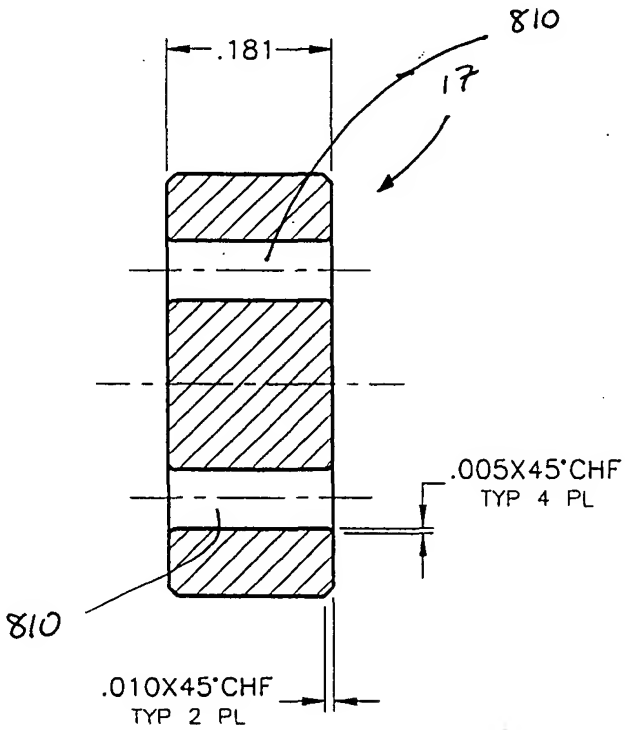
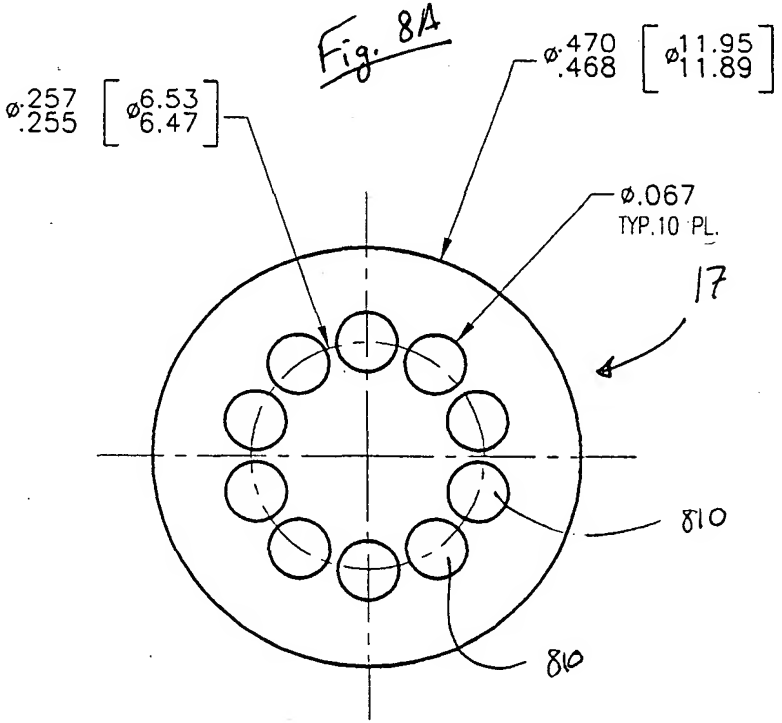


Fig. 8A



RELATED PARTS:

NOTES, UNLESS OTHERWISE SPECIFIED

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .006 T.I.R MAX.

TOLERANCES
XXXX = ±.0005
XXX = ±.005
XX = ±.010
FRACTIONAL = ±.020
ANGULAR = ±2 DEG.
UNLESS OTHERWISE SPECIFIED
DO NOT SCALE THIS DRAWING

MATERIAL: PEEK, NATURAL.

SCALE: 5:1

TITLE: FERRULE SUPPORT, (10 PORT MICRO INJECTION VALVE)

DRAWN	REV.	DATE:
HS	A	04-10-01
HS	PRO-1167	12-12-00

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167 FERRULE SUPPORT

FORMAT	FILE NAME	REVISIONS:
FX4B	PRO-1167-ADJ-NUT	A: / ø.3755 / .3745 WAS ø.437 / .438

SECRET
CONFIDENTIAL

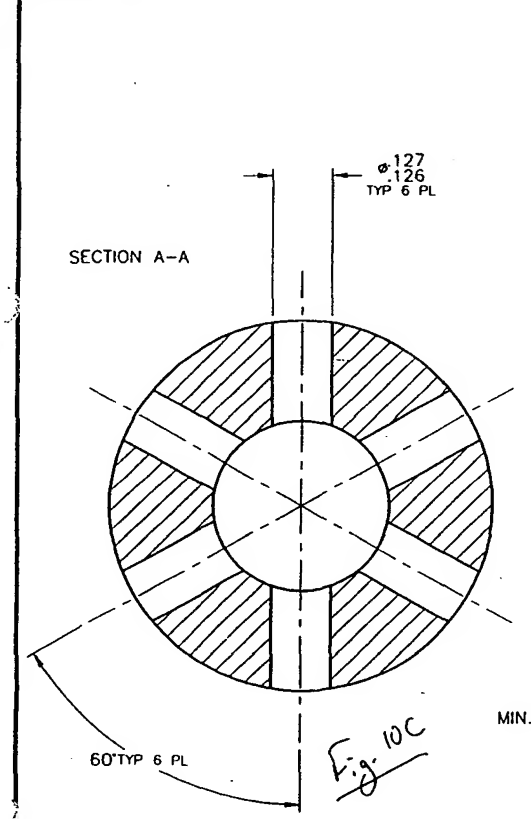


Fig. 10C

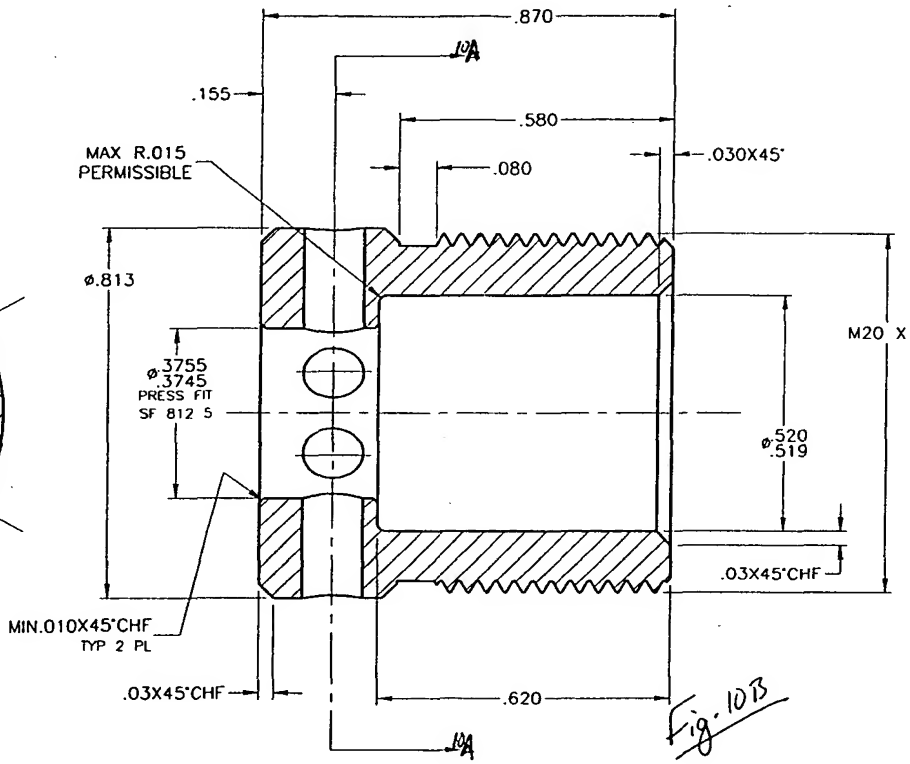


Fig. 10B

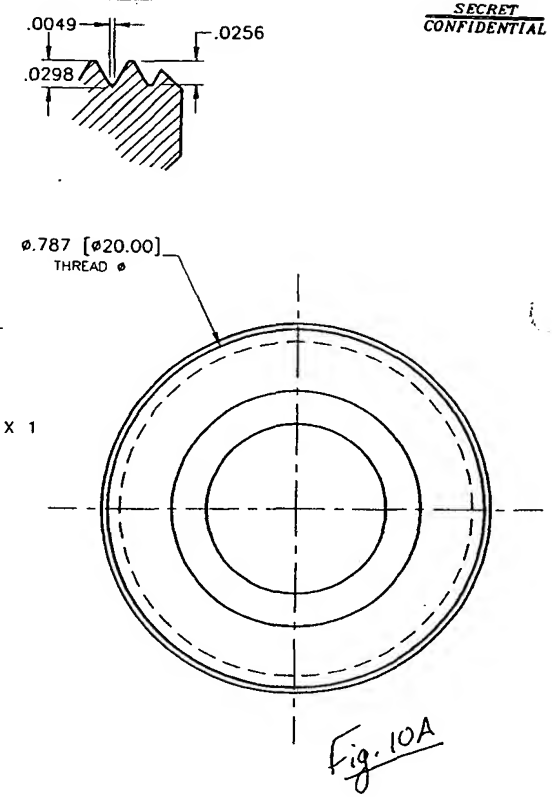


Fig. 10A

RELATED PARTS:

NOTES, UNLESS OTHERWISE SPECIFIED

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .006 T.I.R MAX.

TOLERANCES	
XXXX = ±.0005	FRACTIONAL = ±.020
XXX = ±.005	ANGULAR = ±2 DEG.
XX = ±.010	UNLESS OTHERWISE SPECIFIED DO NOT SCALE THIS DRAWING

MATERIAL: TYPE 316 S.ST.

SCALE: 4:1

TITLE: ADJUSTMENT NUT, (10 PORT MICRO INJECTION VALVE)

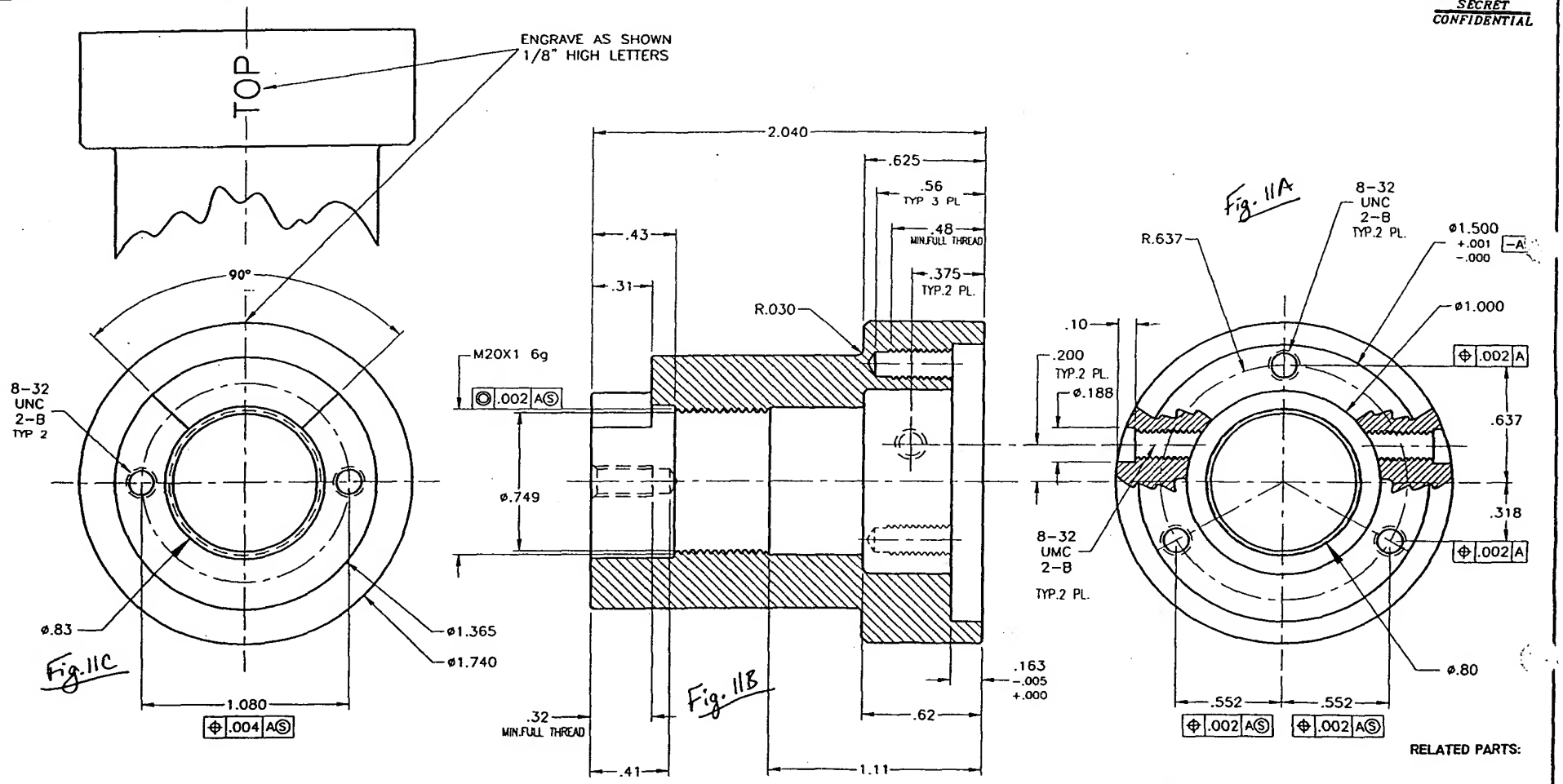
DRAWN	REV.	DATE:
HS	A	03-06-01
HS	PD-110	12-19-00

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167 ADJ-NUT

FORMAT	FILE NAME	REVISIONS
FX2B	PRO-1167-MAIN-BODY-ML	A: / GEOMETRIC TOLERANCING ADDED. B: / CHANGED SOME DIMENSIONES TO 2 DEC. POINTS. C: / ADDED ENGRAVE TOP.

SECRET
CONFIDENTIAL



RELATED PARTS:

NOTES, UNLESS OTHERWISE SPECIFIED

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .006 T.I.R MAX.

TOLERANCES
XXXX = ±.0005
XXX = ±.005
XX = ±.010
FRACTIONAL = ±.020
ANGULAR = ±2 DEC.
UNLESS OTHERWISE SPECIFIED
DO NOT SCALE THIS DRAWING

MATERIAL: TYPE 316 S.ST.
SCALE: 2:1

DRAWN	REV.	DATE:
HS	C	04-17-01
HS	B	03-14-01
HS	A	01-30-01
HS	RD-167	12-12-00

TITLE: MAIN BODY, (10 PORT MICRO INJECTION VALVE)
MICRALYNE VERSION

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167
MAIN BODY-ML

FORMAT	FILE NAME	REVISIONS:
FX4B	PRO-1167-ROTOR-MOUNT-ML	A: /

SECRET
CONFIDENTIAL

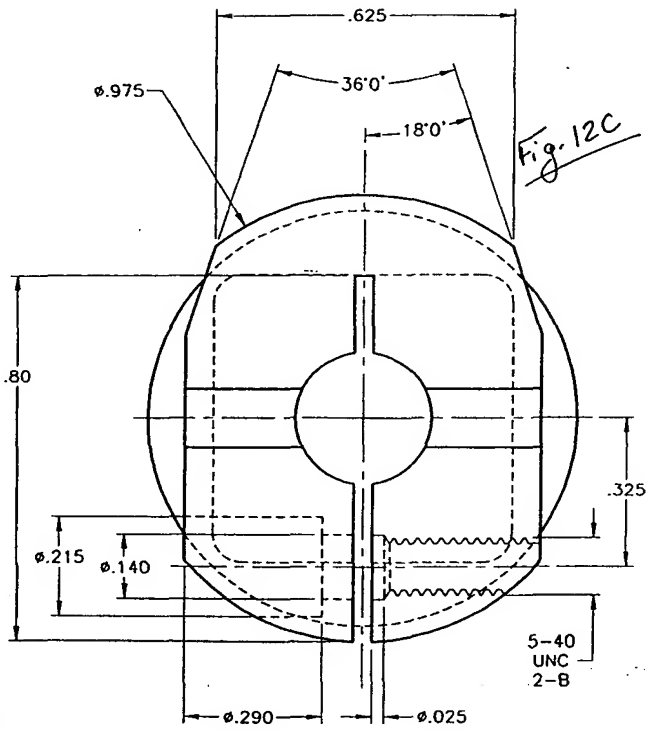


Fig. 12C

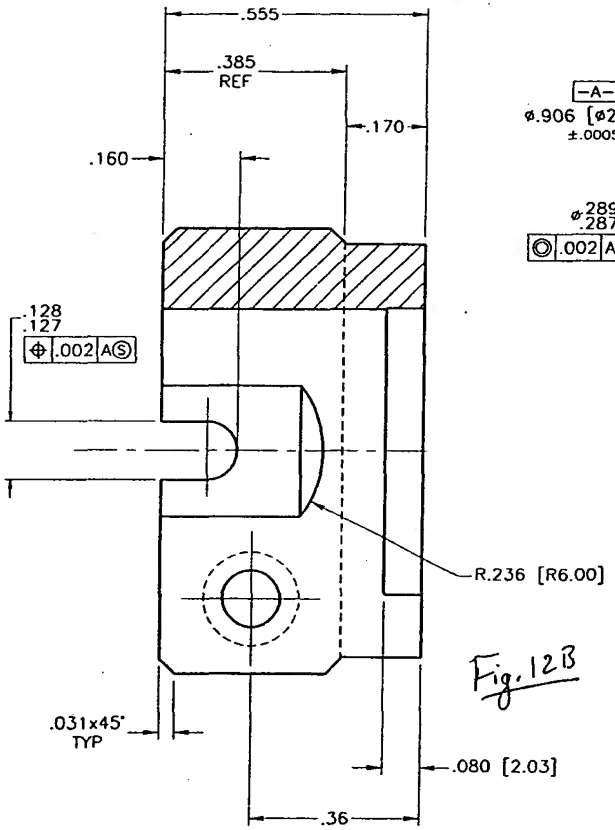


Fig. 12B

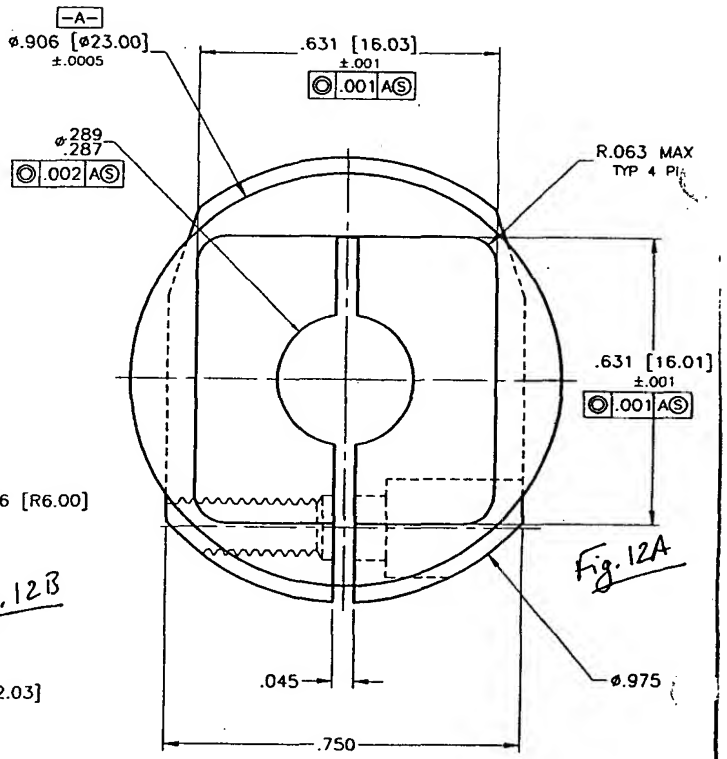


Fig. 12A

RELATED PARTS:

NOTES, UNLESS OTHERWISE SPECIFIED

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .006 T.I.R MAX.

TOLERANCES: XXXX = ±.0005, XXX = ±.003, XX = ±.010, FRACTIONAL = ±.020, ANGULAR = ±2 DEG. UNLESS OTHERWISE SPECIFIED DO NOT SCALE THIS DRAWING

MATERIAL: TYPE 316 S.ST.

SCALE: 4:1

TITLE: ROTOR MOUNT, (10 PORT MICRO INJECTION VALVE)

DRAWN	REV.	DATE:
MS	RD-1187	02-02-01

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167 ROTOR MOUNT-ML

FORMAT	FILE NAME	REVISIONS:
FX3B	PRO-1167-SHAFT	A: / ADDED GEOMETRIC DIMENSIONS AND NOTES. B: / CARRIED FLAT TO END OF SHAFT. C: / LENGTH 1.97 WAS1.78

SECRET
CONFIDENTIAL

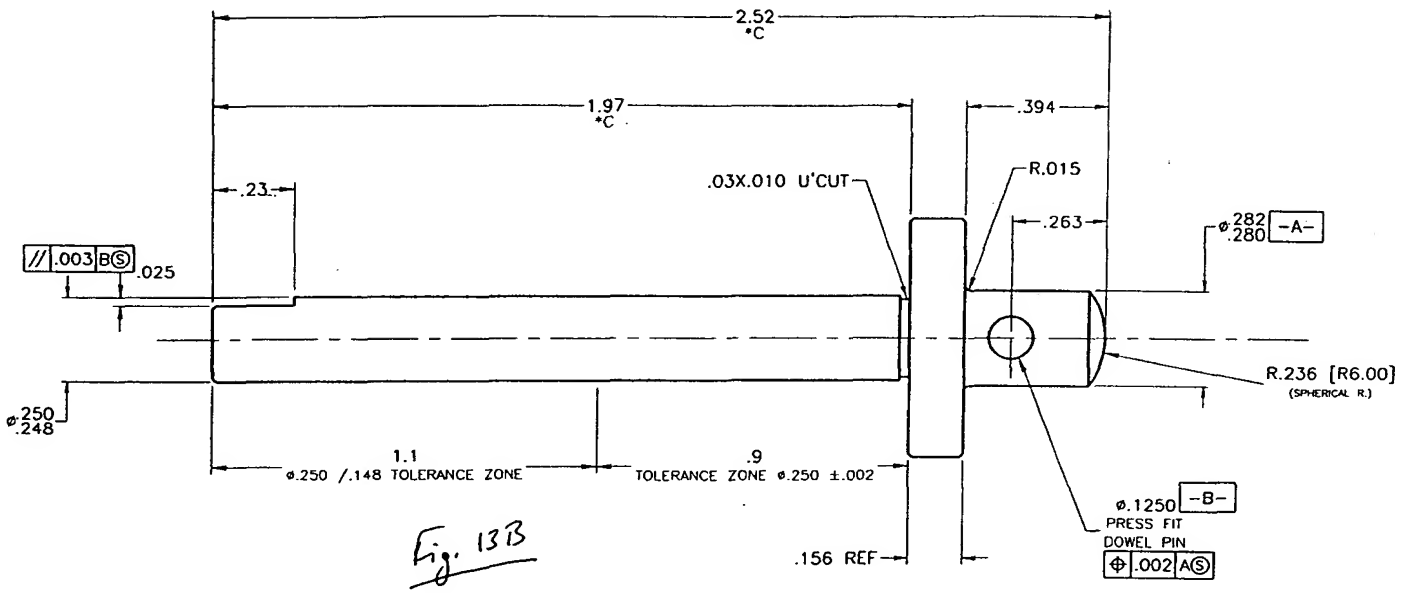


Fig. 13B

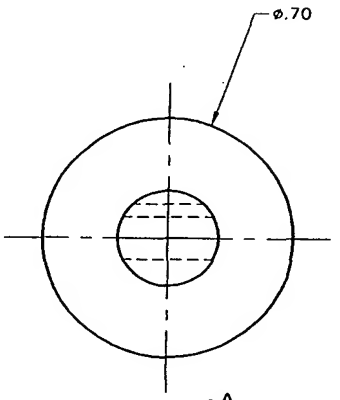


Fig. 13A

RELATED PARTS:

NOTES, UNLESS OTHERWISE SPECIFIED

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX.
3. CONCENTRICITY OF ALL DIAMETERS: .006 T.I.R MAX.

TOLERANCES: XXXX = ±.0005, XXX = ±.005, XX = ±.010 — FRACTIONAL = ±.005, ANGULAR = ±2 DEG. UNLESS OTHERWISE SPECIFIED. DO NOT SCALE THIS DRAWING

MATERIAL: ASSEMBLY

SCALE: 4:1

TITLE: DRIVE SHAFT (10 PORT MICRO INJECTION VALVE)

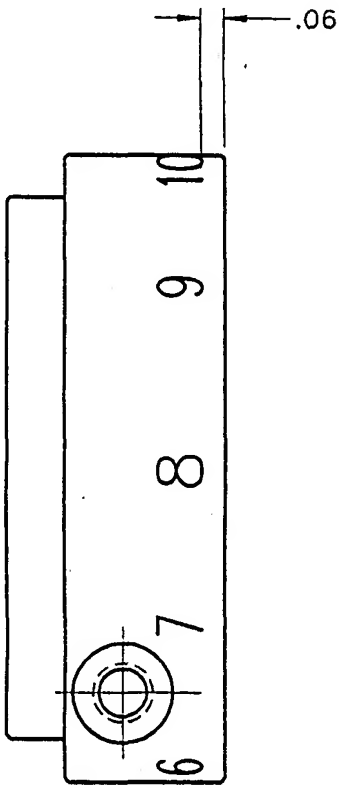
DRAWN	REV.	DATE:
HS	C	04-05-01
HS	B	04-03-01
HS	A	03-15-01
HS	RD-110	11-30-00

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167-SHAFT

FORMAT	FILE NAME	REVISIONS:
FX2A	PRO-1167-STATOR-PLATE-ML-2	A: /

SECRET
CONFIDENTIAL



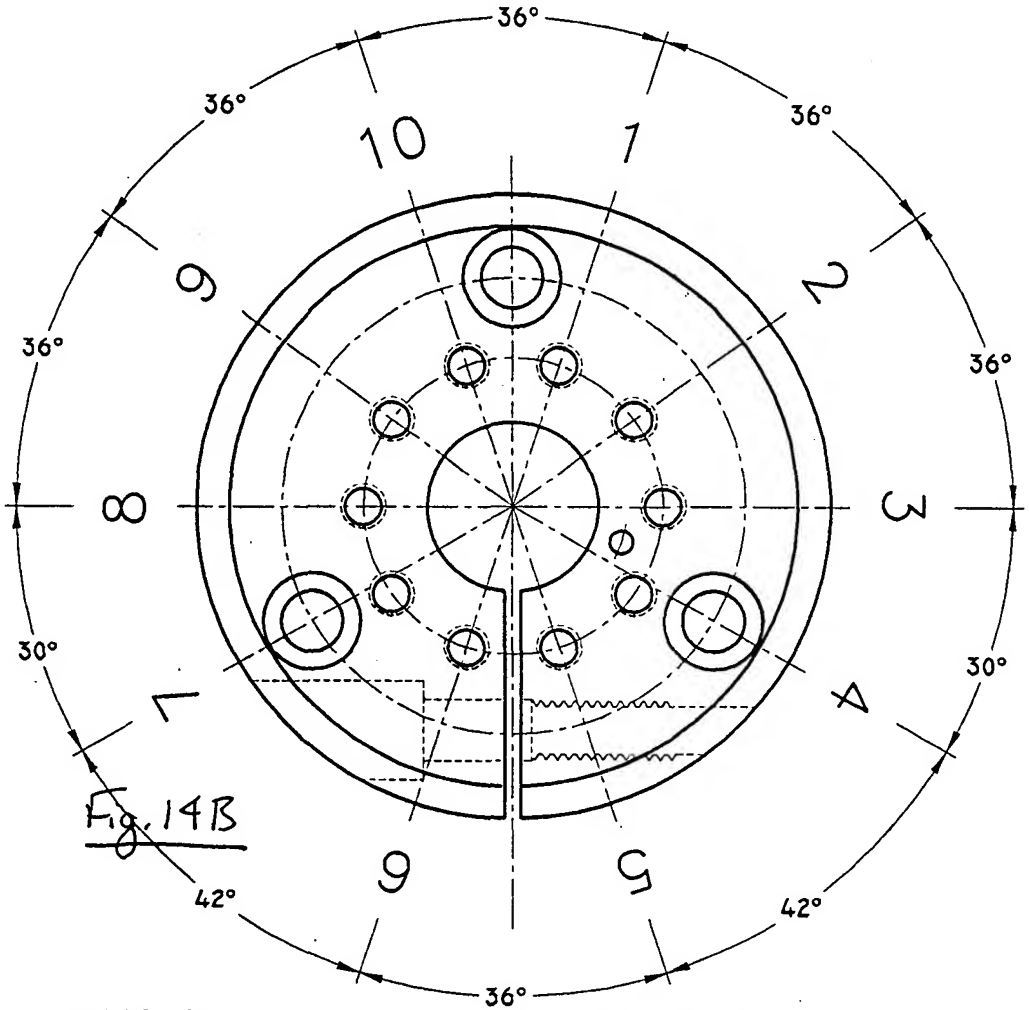


Fig. 14B

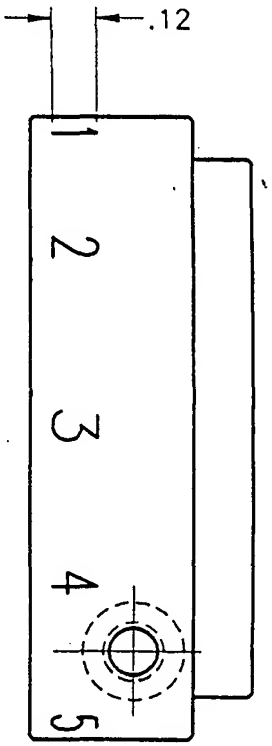


Fig. 14A

ENGRAVE PORT NUMBERS ON
PERIMETER OF PART, AS SHOWN.

TOLERANCES	
XXXX = ±.0005	FRACTIONAL = ±.020
XXX = ±.005	ANGULAR = ±2 DEC.
XX = ±.010	UNLESS OTHERWISE SPECIFIED
	DO NOT SCALE THIS DRAWING

MATERIAL:

SCALE: 2:1

TITLE: STATOR PLATE (10 PORT INJECTION VALVE)

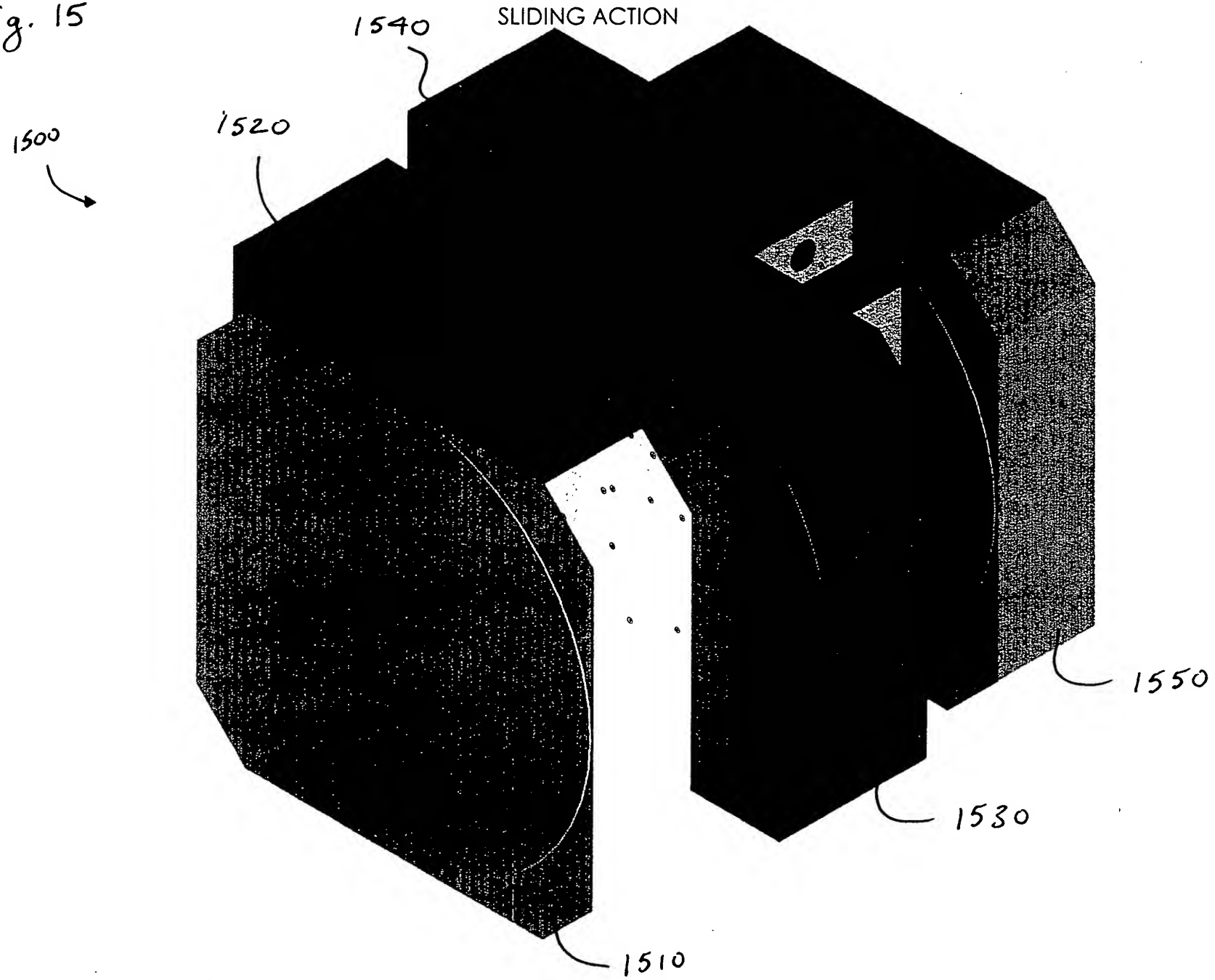
DRAWN	REV.	DATE:
HS	A	04-05-01
HS	PRO-1167	X

UPCHURCH SCIENTIFIC, INC.

PART NUMBER: PRO-1167
STATOR-PLATE-ML
SHEET 1 OF 2

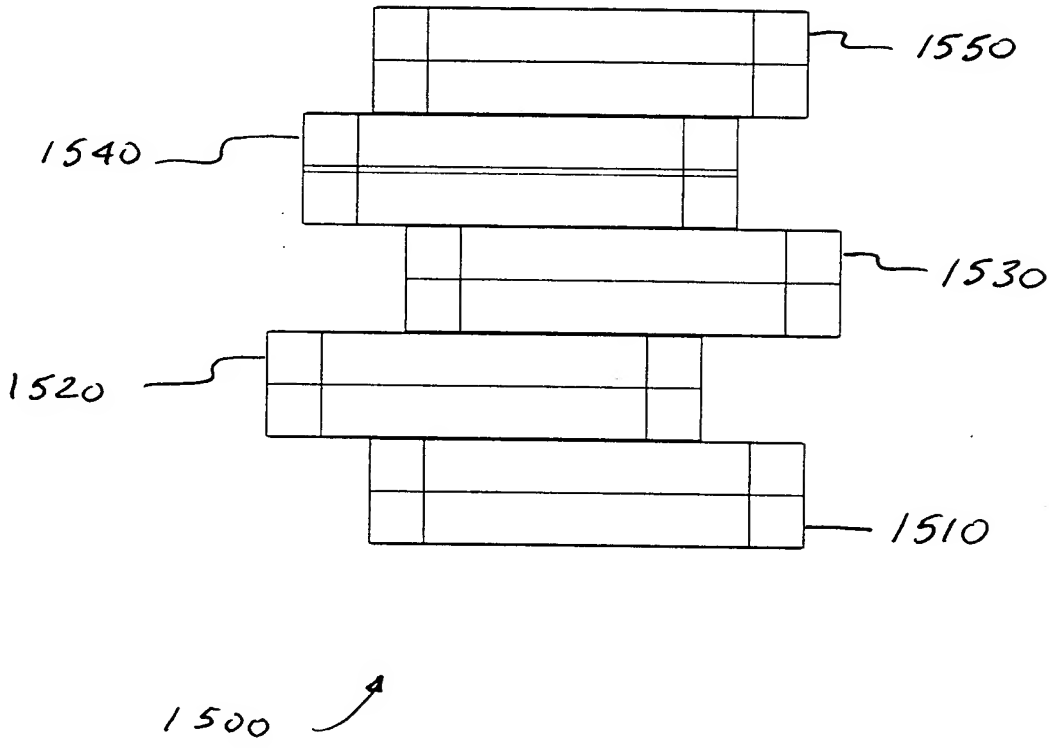
Fig. 15

ACIVE MICRO-FLUIDIC VALVE BODY
LAYERED DESCRETE
FUNCTION ELEMENTS
SLIDING ACTION



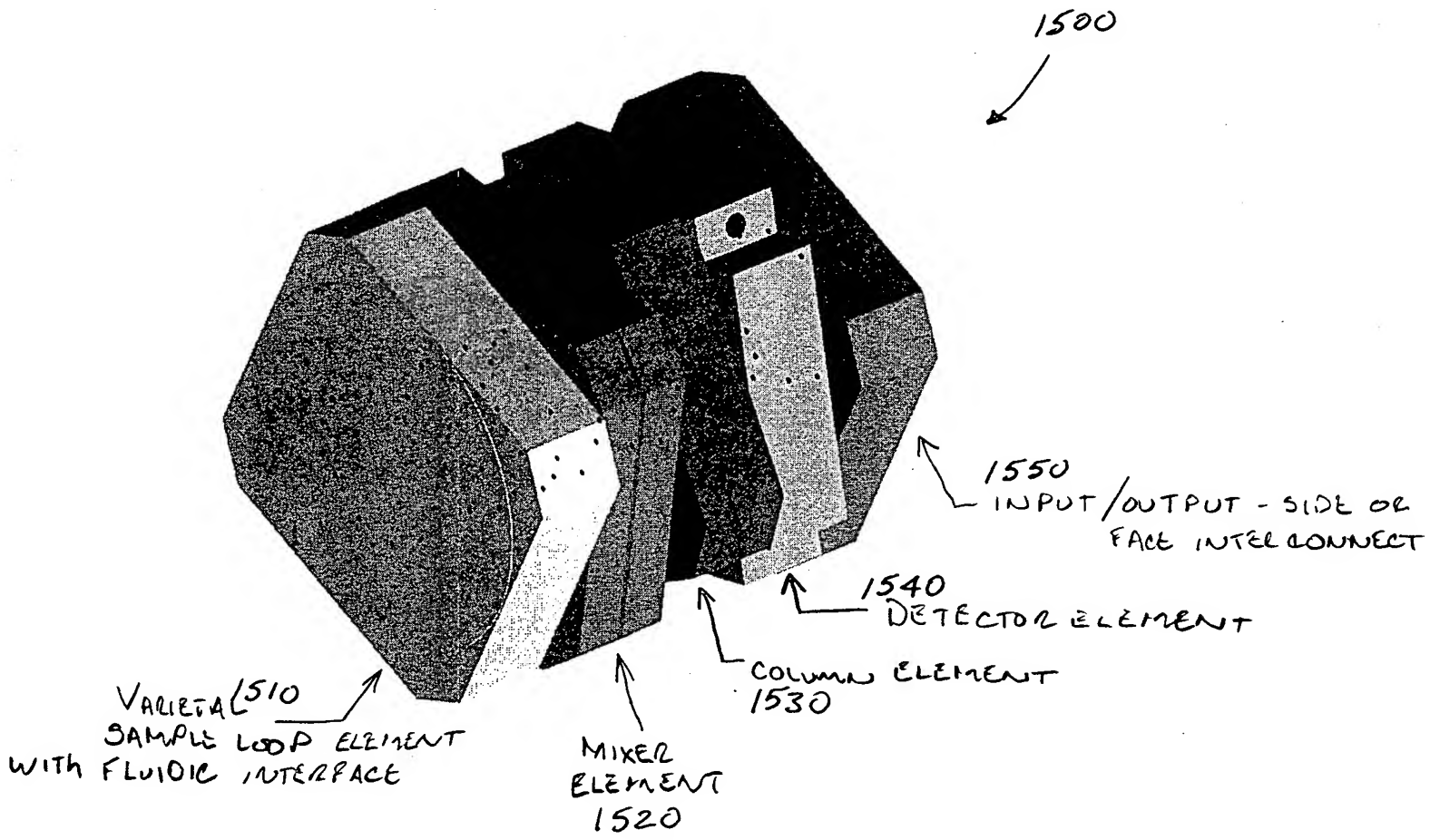
ACIVE MICRO-FLUIDIC VALVE BODY
LAYERED DESCRETE
FUNCTION ELEMENTS
SLIDING ACTION

Fig. 15A



ACIVE MICRO-FLUIDIC VALVE BODY-SYSTEM
LAYERED ~~DESCRETE~~ FUNCTION ELEMENTS
DISCRETE? ROTATING ACTION

Fig. 15B



- ROTATION OF ONE LAYER RELATIVE TO ANOTHER ENGAGES OR ISOLATES OR BYPASSES MICRO-FLUIDIC FUNCTION OR FUNCTIONS OF INDIVIDUAL ELEMENTS.

Fig. 15C

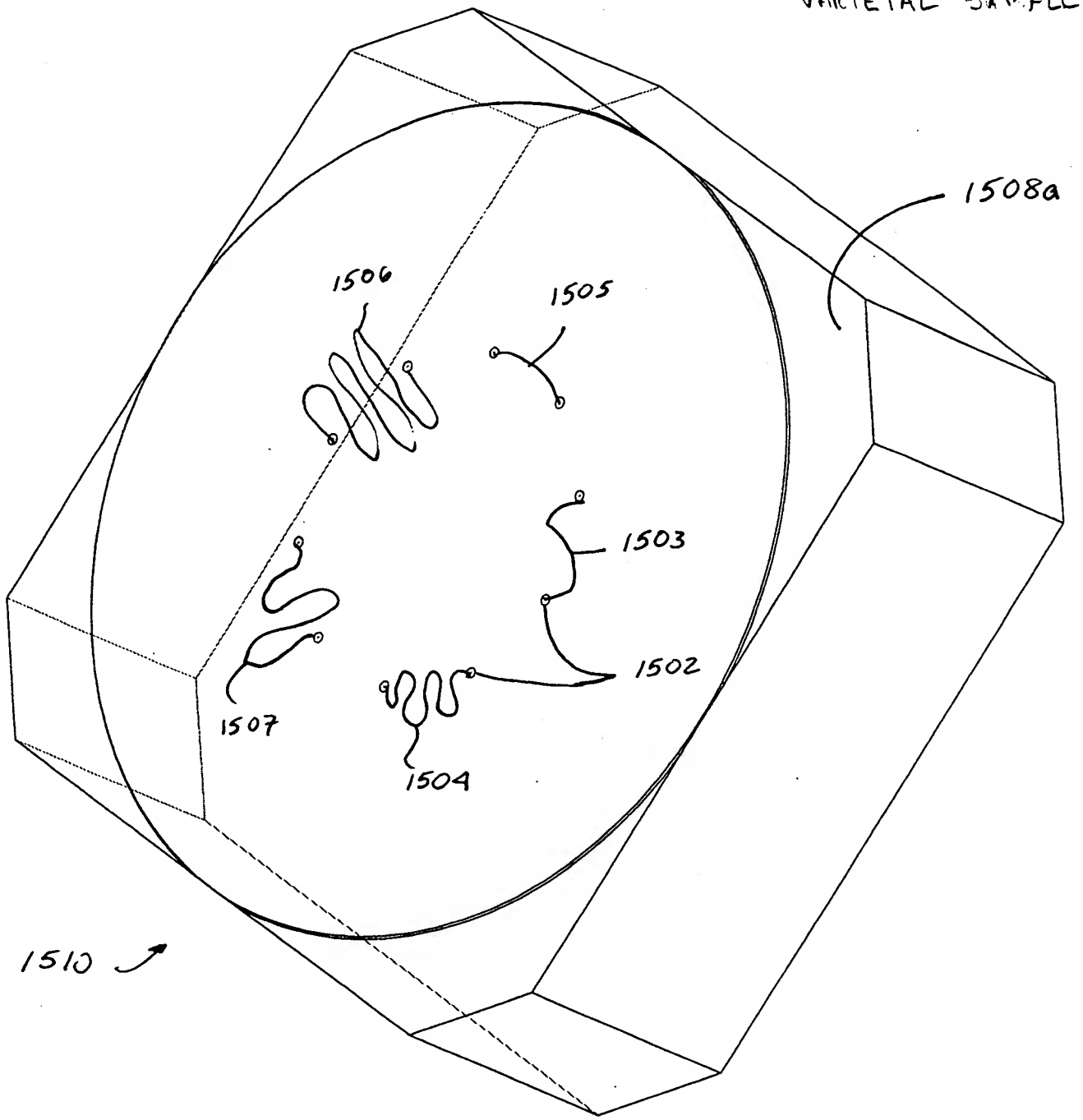

VARIETAL SAMPLE LOOP
1508a
1506
1505
1503
1502
1507
1504
1510

Fig. 15D

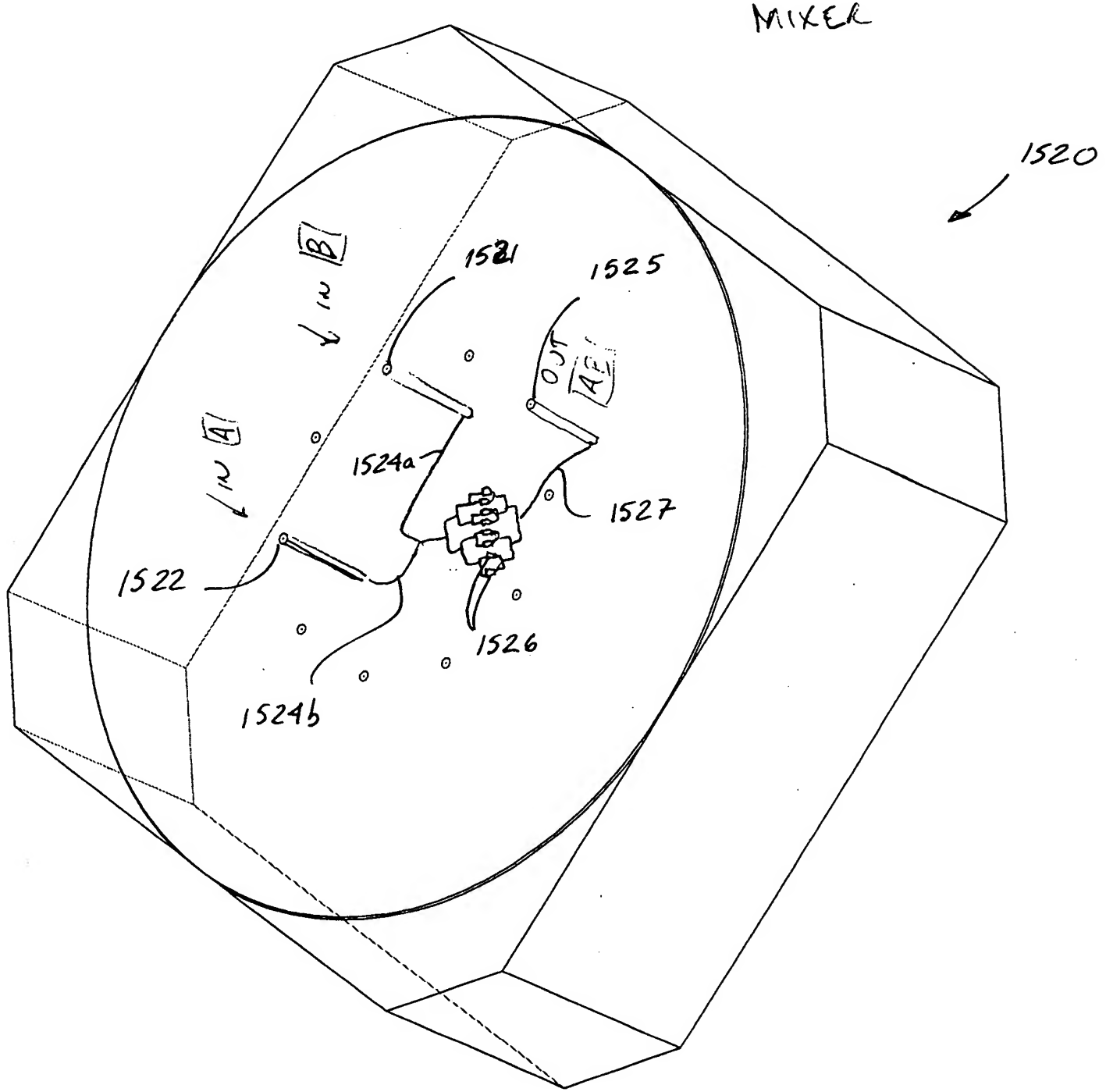


Fig. 15E

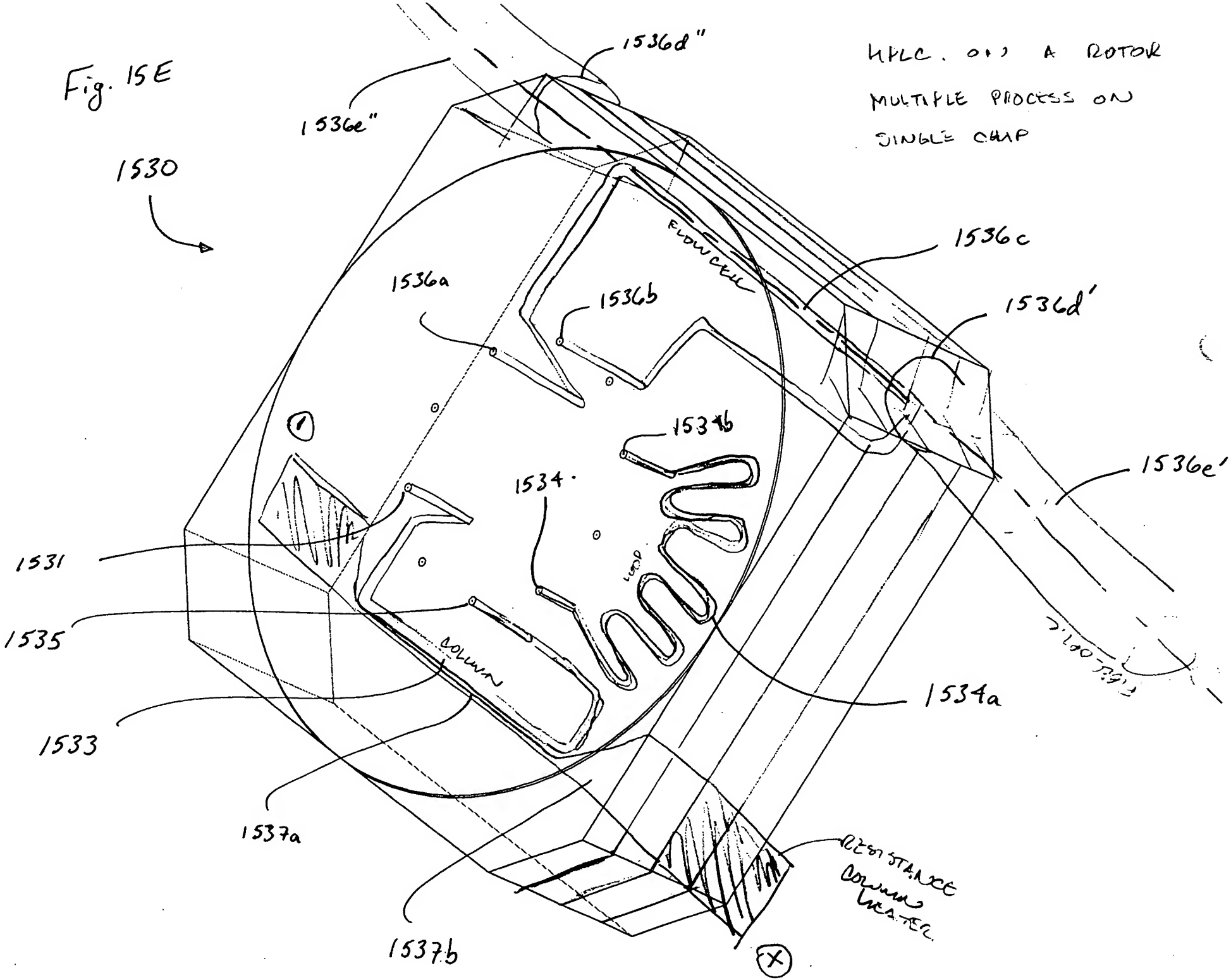

HPLC. on A ROTOR
MULTIPLE PROCESS ON
SINGLE CHIP
1530
1536d"
1536e"
1536c
1536d'
1536e'
1536a
1536b
1534b
1534
1534a
1531
1535
1533
1537a
1537b
FLOW CELL
COLUMN
LOOP
(1)
(X)

Fig. 15F

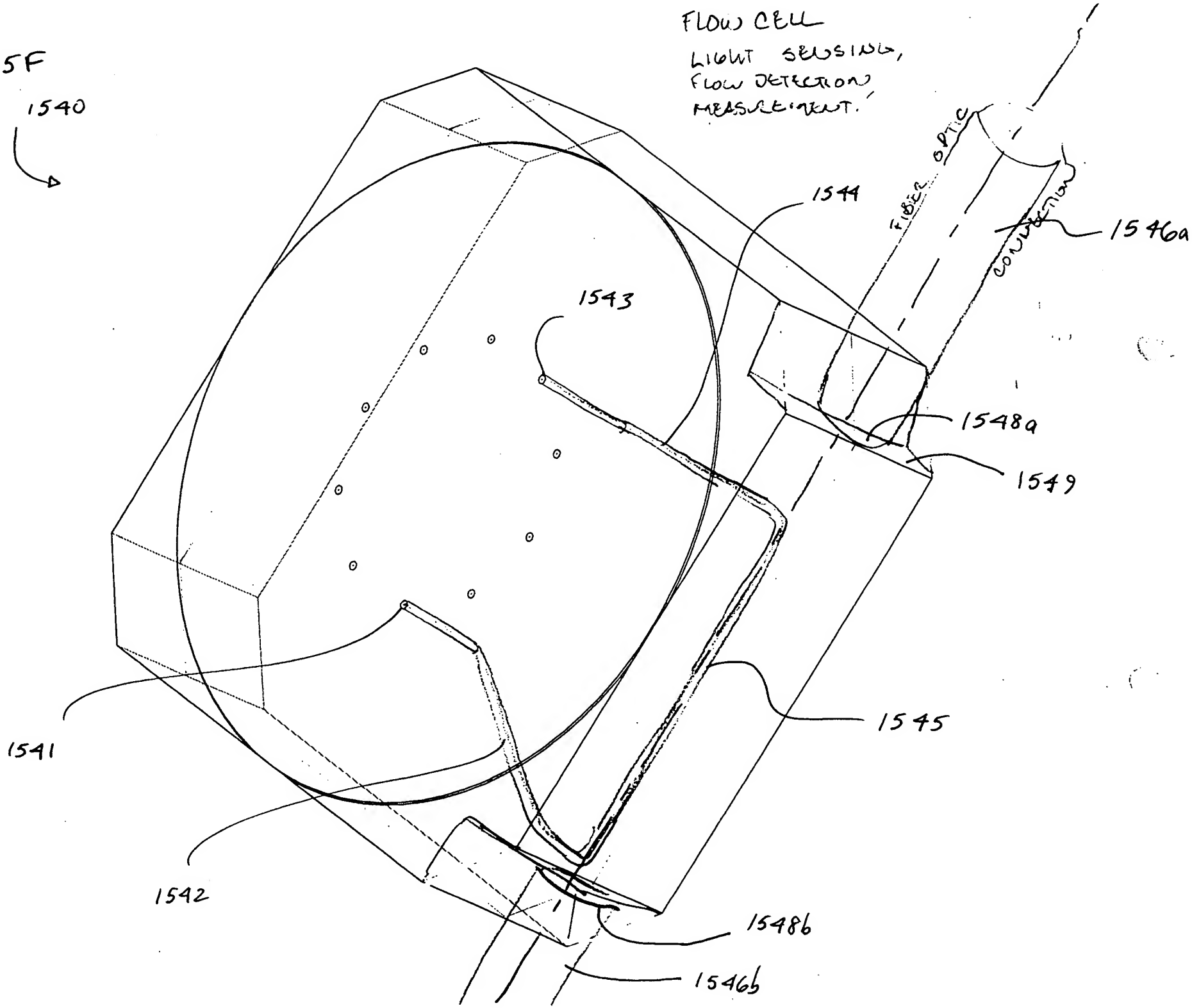

1540
FLOW CELL
LIGHT SENSING, FLOW DETECTION, MEASUREMENT.
1544
FIBER OPTIC
CONNECTION
1546a
1543
1548a
1549
1545
1541
1542
1548b
1546b

Fig. 15G

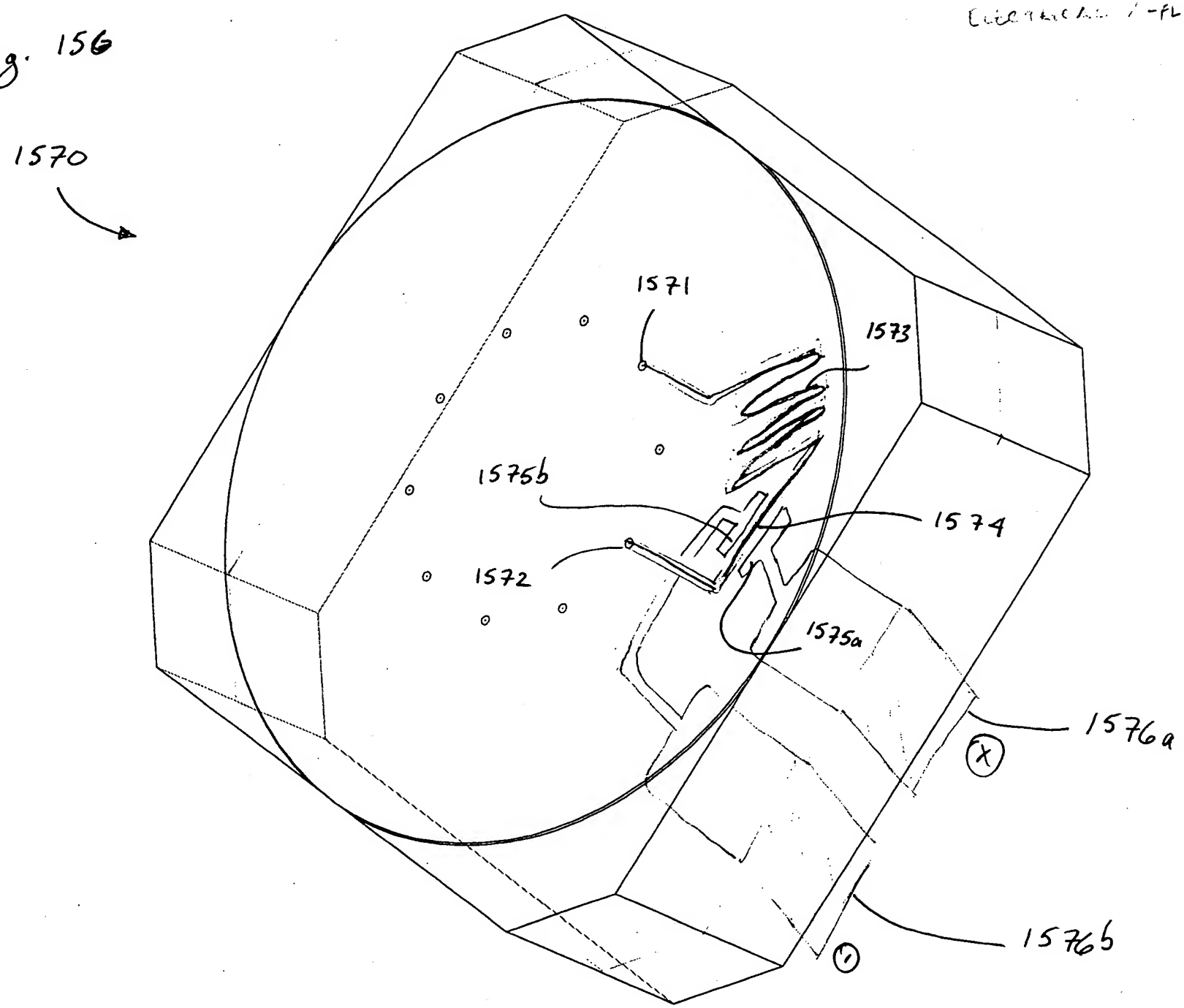


Fig. 15H

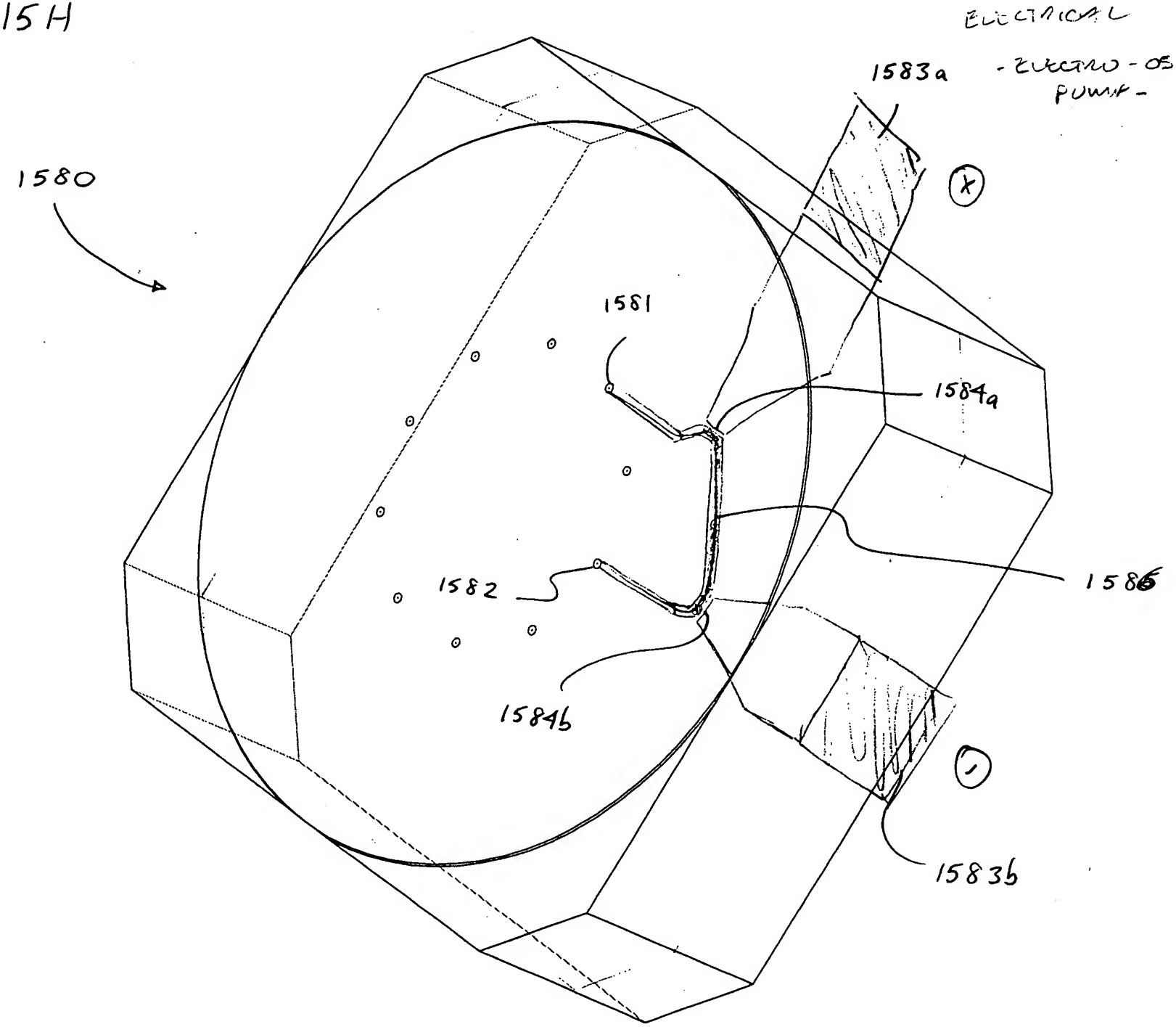
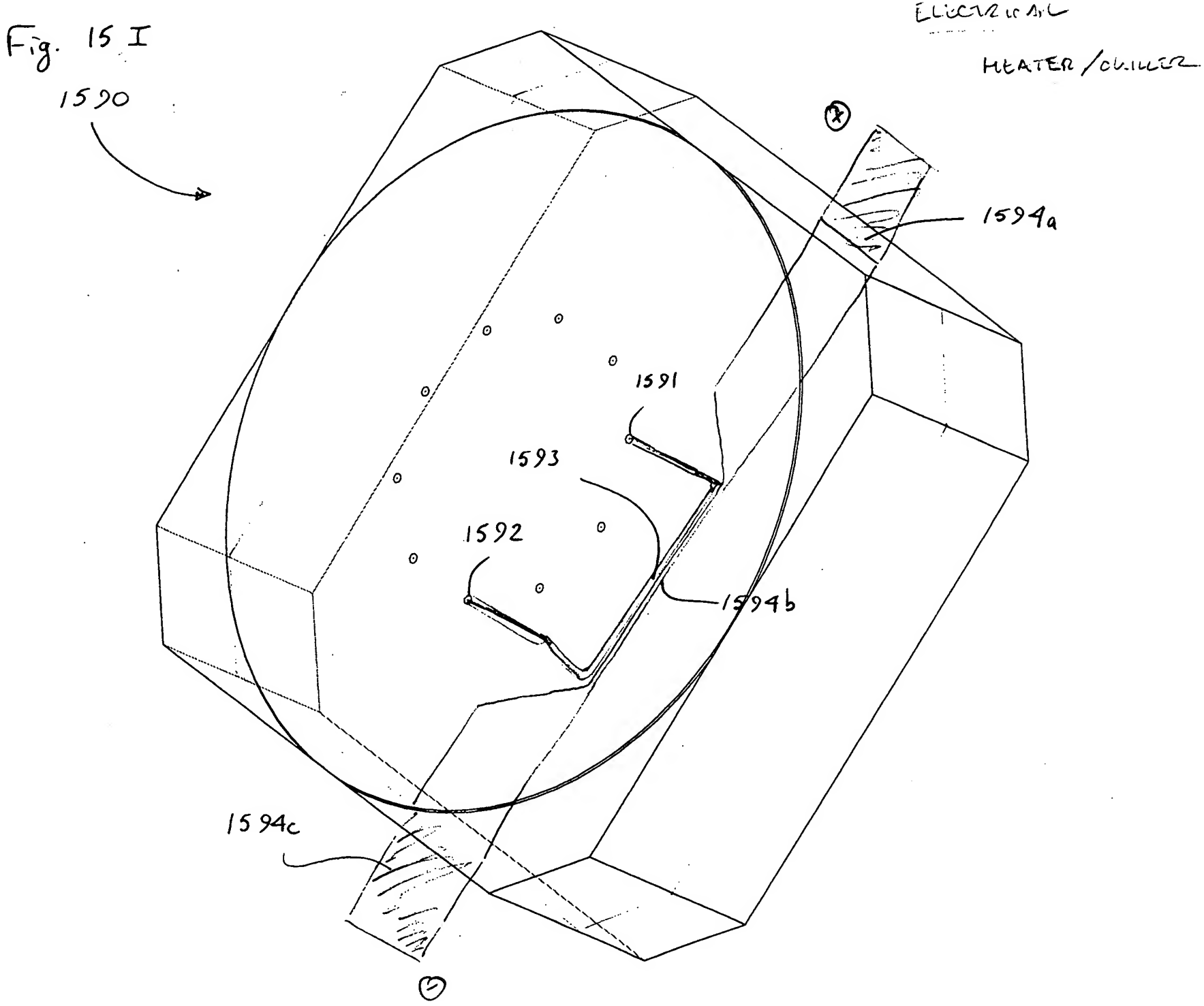
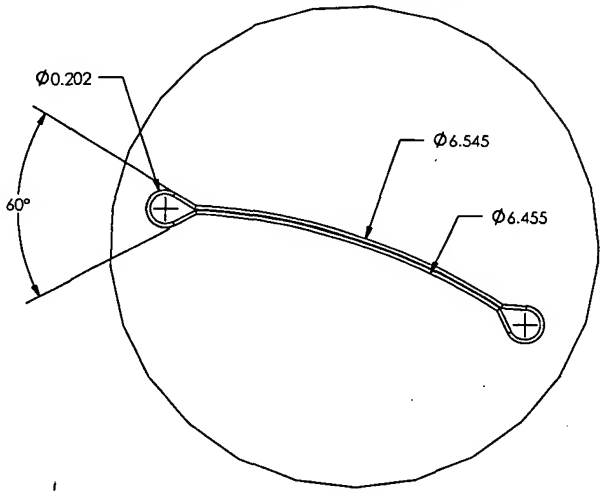

ELECTRICAL
- ELECTRO-OSMOTIC PUMP -
1583a
1580
1581
1584a
1582
1586
1584b
1583b

Fig. 15 I


1590
ELECTRICAL
HEATER / CHILLER
1594a
1591
1593
1592
1594b
1594c

REVISIONS			
REV.	DESCRIPTION	DATE	INITIALS
A	ADD SHEET WITH DETAIL VIEW TO SHOW RELIEF ETCH OUSIDE 16.0 DIAMETER	04-09-01	THD
B	NEW ETCH DEPTH 20um, WAS 34um, ADDL. NOTES TOLERANCES	05-07-02	THD
C	ADJUSTED GROOVE GEOMETRY FOR NEW ETCH DEPTH, VOL. NOTE	05-08-02	THD

Fig. 16D



DETAIL A
SCALE 40 : 1

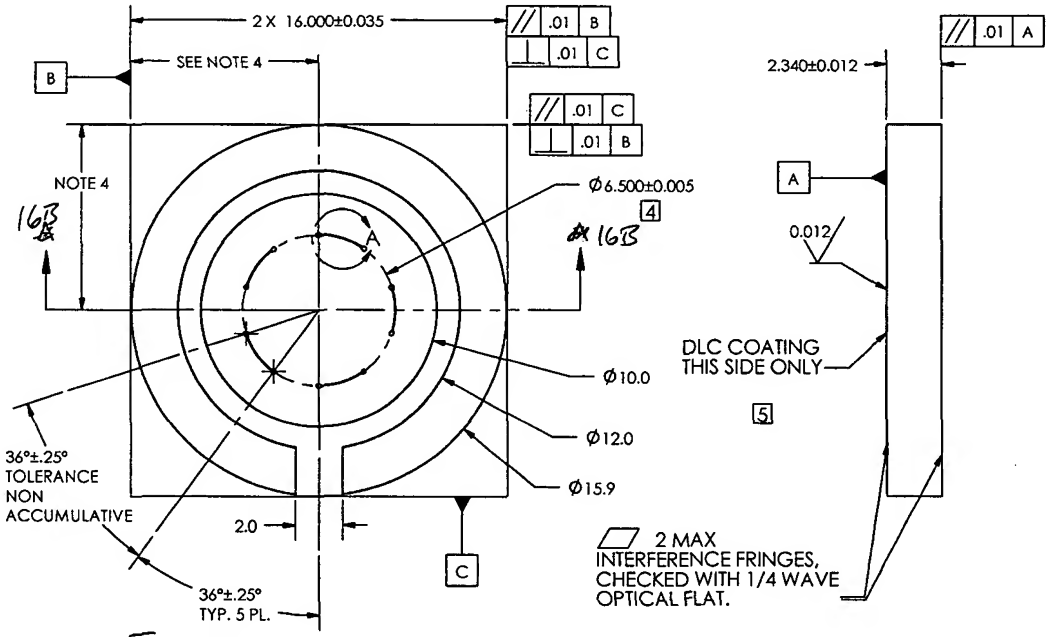
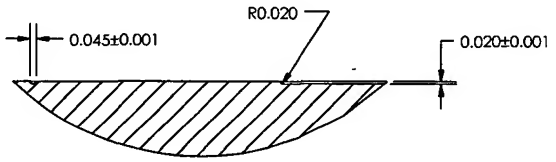
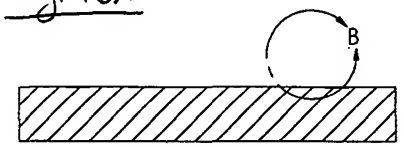


Fig. 16A



DETAIL B
SCALE 30 : 1

Fig. 16C



SECTION A-A

Fig. 16B

CONCEPT DRAWING

NOTES, UNLESS OTHERWISE SPECIFIED:

1. SURFACE FINISH: 0.40 [16 RMS]
2. EDGE BREAK: .020 [.008"] MAX
3. CONCENTRICITY OF ALL DIAMETERS: .05 [.002"] T.I.R. MAX
4. GROOVE PATTERN TO BE CENTERED WITHIN SQUARE ±.035 [.0014"]
5. DIAMONEX EVERSCAN COATING
6. (FLUID GROOVE VOLUME 2.7nL)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE: +/-0.050	CAD GENERATED DRAWING. DO NOT MANUALLY UPDATE		UPCHURCH SCIENTIFIC, INC.
	APPROVALS	DATE	10 PORT MICRO-INJECTION VALVE ROTOR
MATERIAL QUARTZ	DRAWN THD	03-29-01	
FINISH –	CHECKED		
	RESP ENG		
	MFG ENG XX	XX-XX-XX	SIZE B DWG. NO. PRO-1167-ROTOR -ML REV. C
DO NOT SCALE DRAWING	QUAL ENG		SCALE 5:1 CAD FILE: PRO-1167-ROTOR-ML SHEET 1 OF 2

REVISIONS			
REV.	DESCRIPTION	DATE	INITIALS
A	ADD DETAIL VIEW TO SHOW RELIEF ETCH OUTSIDE 16.0 DIAMETER	04-09-01	THD
B	NEW ETCH DEPTH 20um, WAS 35um, ADDL. NOTES, TOLERANCES	05-07-02	THD
C	ADJUST GROOVE GOMETERY, VOL. NOTE	05-08-02	THD

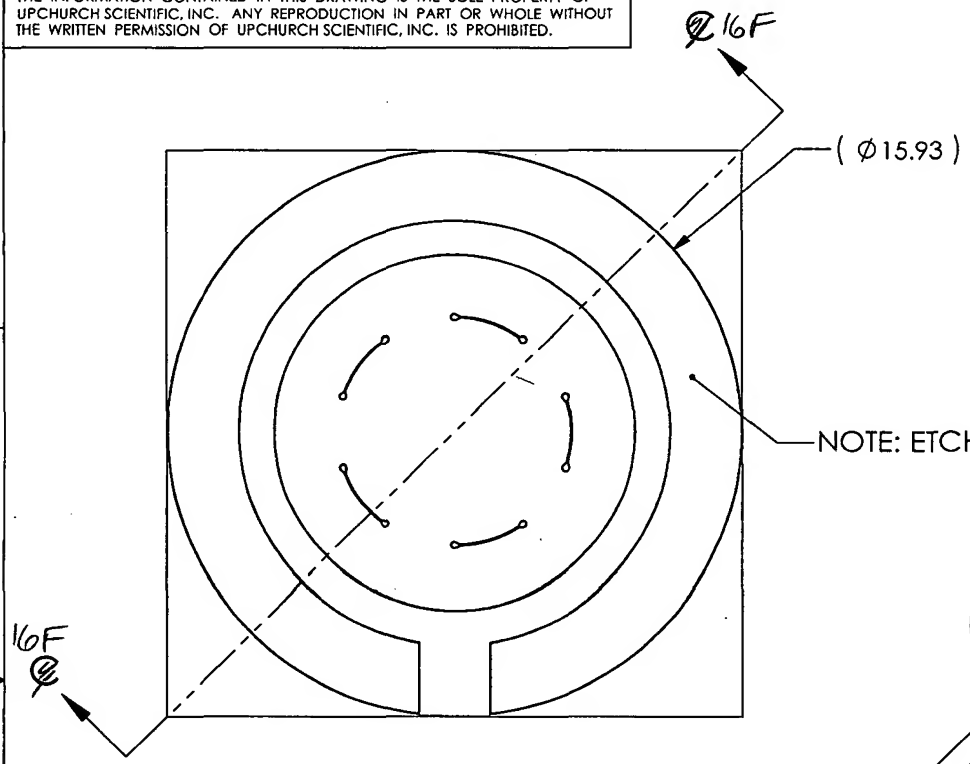


Fig. 16E

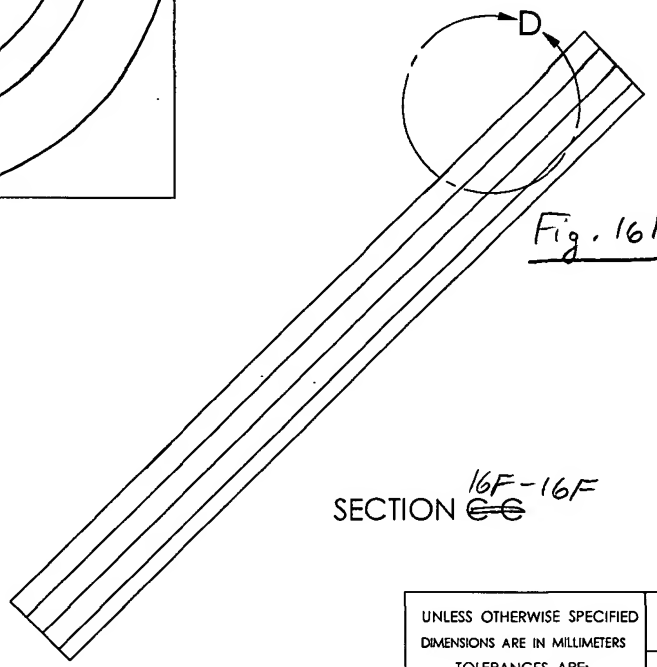


Fig. 16F

SECTION ~~C-C~~ 16F-16F

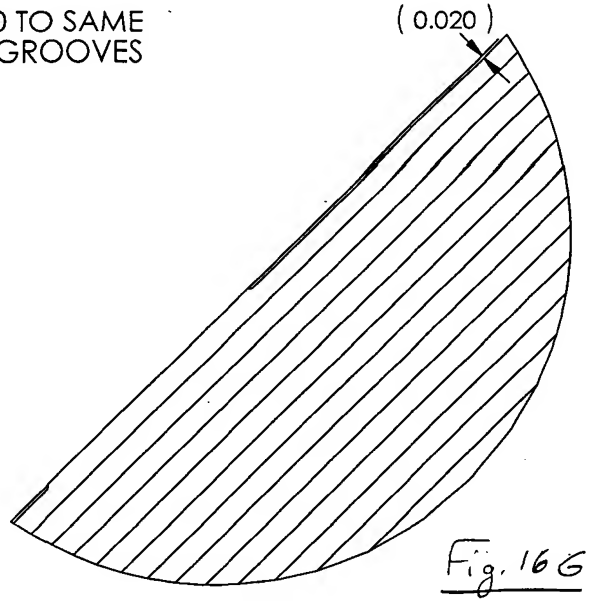


Fig. 16G

DETAIL D
SCALE 20 : 1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS TOLERANCES ARE: +/-0.050	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		UPCHURCH SCIENTIFIC, INC.
	APPROVALS	DATE	10 PORT MICRO-INJECTION VALVE ROTOR
	DRAWN THD	03-29-01	
	CHECKED —		
MATERIAL QUARTZ	RESP ENG —		
FINISH XX	MFG ENG XX	XX-XX-XX	SIZE A / DWG. NO. PRO-1167-ROTOR-ML / REV. C
DO NOT SCALE DRAWING	QUAL ENG —		SCALE 5:1 / CAD FILE:PRO-1167-ROTOR-ML / SHEET 2 OF 2

REVISIONS			
REV.	DESCRIPTION	DATE	INITIALS
A	"ADDED CORNER RELIEF AND GEO. TOLS. TO STATOR POCKET	05-15-01	HS
B	NEW PRINT - S.W. - ADDED RELIEF TO BACK OF LG. DIA	06-12-02	THD

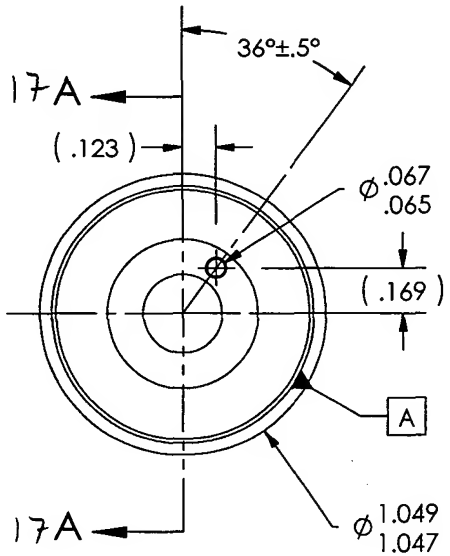


Fig. 17

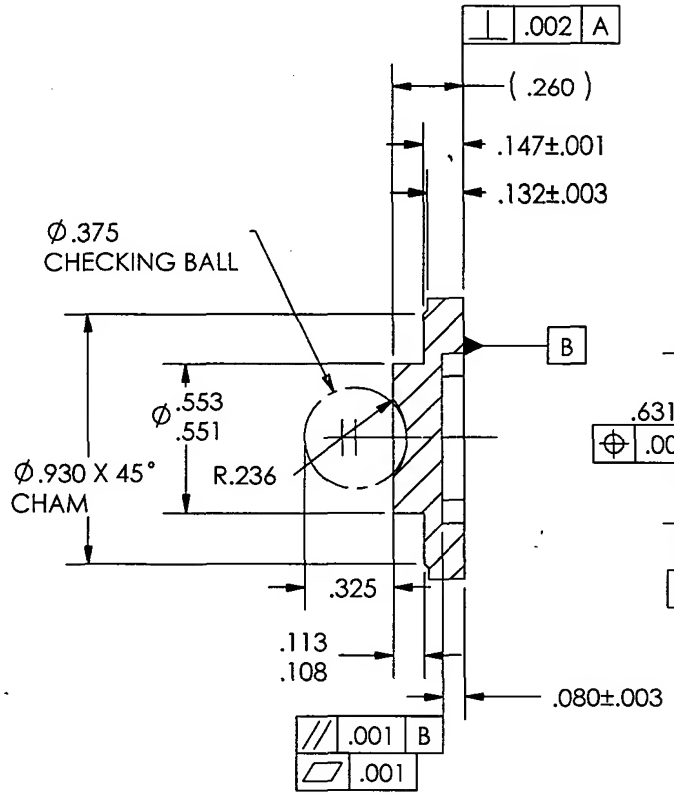


Fig. 17A SECTION 17A-17A

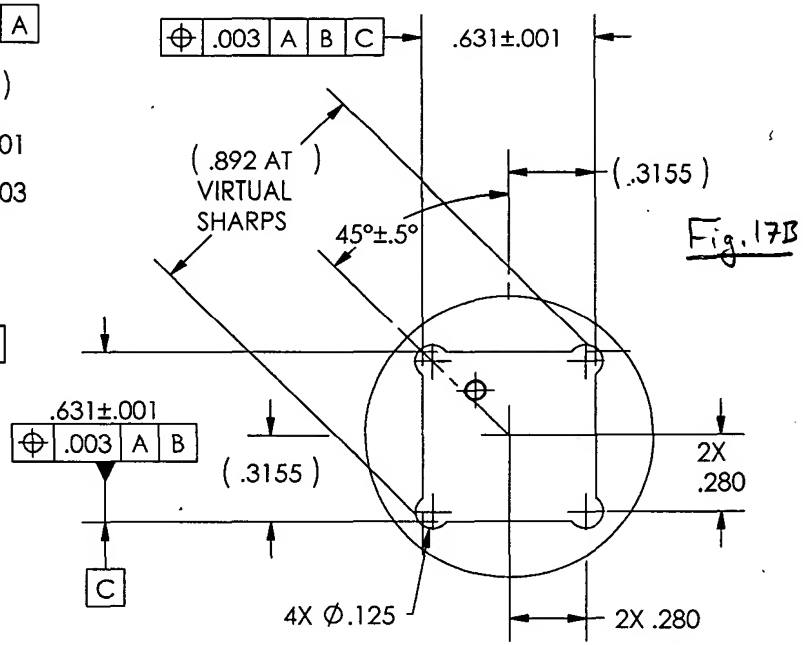


Fig. 17B

Fig. 17C

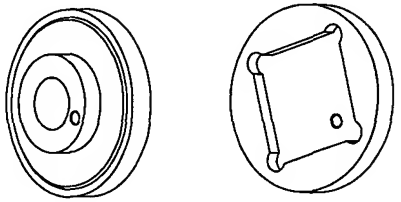


Fig. 17D

NOTES, UNLESS OTHERWISE SPECIFIED:

1. SURFACE FINISH: 32 RMS
2. EDGE BREAK: .010 MAX
3. CONCENTRICITY OF ALL DIAMETERS: .006 T.I.R. MAX
4. CLEAN AND FREE OF BURRS

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .020 .XXXX = ± .0005 ± 2° .XXX = ± .005 .XX = ± .010	CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		UPCHURCH SCIENTIFIC, INC.
	APPROVALS	DATE	
	DRAWN THD	05-15-02	ROTOR MOUNT INSERT, QUARTZ WAFER
	CHECKED —		
MATERIAL BEARING GRADE PEEK	RESP ENG —		
FINISH 32 RMS	MFG ENG XX	XX-XX-XX	SIZE A / DWG. NO. PRO-1167-ROT-INSERT / REV. B
DO NOT SCALE DRAWING	QUAL ENG —		SCALE 1.5:1 / CAD FILE:PRO-1167-ROT-INSERT / SHEET 1 OF 1